Capgemini Test 1

1

SECTION A

Fresh Grapes contain 90% water by weight. Dried grapes contain 20% water by percentage. What will be the weight of dried grapes when we begin with 20 kg fresh grapes?

( )2 kg
( )2.4 kg
( )2.5 kg
( )none

Explanation: Fresh grapes contain 90% of their weight as water, so weight of water in fresh 20 kg grape would be:
(90/100) * 20 = 18 kg.
So the dry wt of grapes is 2 kg.
Weight of dried grapes which contain 20% of water by weight
suppose the total weight of dry grapes is W...
W= dry weight of grapes + 20% of W
=> W = 2kg + (20/100) * W
=> W =2 kg + W/5
=> 2kg = W - W/5 = (5W - W)/5
=> 4W/5 = 2kg
=> W = (2*5)/4 =5/2 kg i.e. 2.5 kg

2

How many 5 digit number can be formed with digits 1, 2, 3,4,5,6 which are divisible by 4 and digits not repeated?

( )144
( )168
( )192
( )none

Explanation: Take 5 blanks _ _ _ _ _.
Since the number has to be divisible by 4 we can have only the following cases
12, 16, 24, 32, 36, 52, 56, 64.That is you can fill the last two
blanks in eight ways.
Now take the first three blanks. Since we already selected 2 numbers,
we are left with 4 numbers.
That is we can fill the first blank in 4 ways, similarly the second in
3, the third in 2 ways.
By fundamental principle of counting we have to multiply all of them.
That is 4 x 3 x 2 x 8=192.

3

There is a rectangular Garden whose length and width is 60m X 20m.There is a walkway of uniform width around garden. Area of walkway is 516m2. Find width of walkway?

( )1
( )2
( )3
( )4

Explanation: let the width of rectangle be x
so the length & breath is increased by 2x
so new total area along with walkway is (60+2x)*(20+2x)
so (60+2x)*(20+2x)-60*20=516
=>(60+2x)*(20+2x)=1716
=>(30+x)*(10+x)=429=33*13
=>x=3 is the width of gateway

4

If 1= (3/4) (1+ (y/x)) then

( )x=3y
( ) x=y/3
( )x= (2/3) y
( )none

Explanation: 1 = (3/4) (1+(y/x))
4 = 3(1 + (y/x))
4x = 3(x + y)
4x - 3x = 3y
X= 3y

5

The sum of six consecutive odd numbers is 888. What is the average of the number?

( )147
( )148
( )149
( )146

Explanation: Sum of six number = 888

Average = 888/6 = 148

6

1, 27, 125,? , 729, 1331 find missing number.

( )175
( )300
( )343
( )400

Explanation: 1^ 1, 3^3, 5^3, 7^3

7

Find approximate value of 39.987/0.8102+1.987*18.02

( )72
( )56.6
( )85.16
( )44

Explanation: Considering only two values after decimal point
49.35 + 35.81 = 85.16

8

Take a 99 digit number. It is created by using first 54 natural numbers. The number thus is 1234567891011.....5354. This number is now divided by 8. The remainder is:

( )1
( )2
( )4
( )8

Explanation: We know the test of divisibility by 8. Just check the last three digits by 8 and check the remainder. Here the last three digits are "354". Remainder will be 2.

9

If a certain sum of money at SI doubles itself in 5 yrs then what is the rate?

( )5%
( )10%

( )25%
( )20%

Explanation: let the principal be 100
amount = 200
si=100
si=p*n*r/100
r=100*si/p*n
r=100*100/100*5
r=20 %

10
A man engaged a servant on a condition that he'll pay Rs 90 and also give him a turban at the end of the year. He served for 9 months and was given a turban and Rs 65. So the price of turban is?

( )Rs 10
( )Rs 19
( )Rs 2.5
( )cannot determined

Explanation: 1 yr = 90 + turban
=> 3/4 yrs = 3/4 (90 + T)
=> 3/4 (90+T) = 65 + T
=> Solve to get T = 10

11
Find the 20th term from the last in the sequence 3,7,11.....407?

( )331
( )313
( )311
( )none

Explanation: an = a + (n - 1) d..... 1
from question d = 4 from start of series
as we are considering series from end d = -4
n = 20; a = 407
substitute value in Equation 1
i.e. an = 407 + (20-1)(-4) = 313

12

In a race from point X to point Y and back, Jack averages 30miles/hr to point Y and 10 miles/hr back to point X. Sandy averages 20 miles/hr in both directions. If Jack and Sandy start race at same time, who'll finish 1st ?

( )jack
( )Sandy
( )Tie
( )cannot be determined

Explanation: Let the distance between X and Y be 10 miles
Total time taken by Jack to travel from X and Y and back = 10/30 + 10/10
= 1/3 hour + 1 hour = 20 minutes + 60 minutes = 80 minutes
Total time taken by Sandy to travel from X and Y and back = 10/20 +10/20
= 1/2hour + 1/2 hour = 30 minutes + 30 minutes = 60 minutes
So, Sandy will reach first

13

2 men at same time start walking towards each other from A and B 72 kms apart. Speed of A is 4kmph and speed of B is 2 kmph in 1st hour,2.5 in 2nd hours, 3 in 3rd hours and so on...when will they meet?

( )in 7 hrs
( )at 35 kms from A
( )in 10 hrs
( )midway

Explanation: **hours** **Distance (kms)**

	A	B
1st	4	2.5
2nd	4	3
.	.	
.	.	

As the time progress Speed of B also increases and Both A and B meet each other at midways at 9 hours

14

If the ratio of production of 3 different companies A B & C is 4:7:5 and of overall production last year was 4lack tones and if each company had an increase of 20% in production level this year what is the production of Company B this year?

( )2.1Lack
( )22.1Lack
( )4.1Lack
( )none

Explanation: Production of B company is (7/16) * 4 lack
20% increase in production = (120/100) * (7/16) * 4 lack = 2.1 lack

15

If 70% of a no. is subtracted from itself it reduces to 81.what is two fifth of that number?

( )108
( )54
( )210
( )none

Explanation: Let the number be x
X - 70 %(x) = 81
30% x = 81
X= 81*(100/30) = 108

16

If radius of cylinder and sphere are same and volume of sphere and cylinder are same what is the ratio between the radius and height of the cylinder?

( )R= H
( )R= (3/4)H
( )R = (4/3)H
( )R=2/3H

Explanation: volume of sphere = (4/3) π * R3
Volume of Cylinder = π R2 * H
(4/3) π * R3 = π R2 * H

R = (3/4)H

17

Which one of the following fractions is arranged in ascending order ?

( )9/11,7/8,11/13,13/14
( )7/8,9/11,11/13,13/14
( )9/11,11/13,7/8,13/14
( )none

Explanation: 9/11 = 0.8182 ; 7/8 = 0.875 ; 11/13 = 0.8462 ;
13/14 = 0.9285
Ascending order of fraction is as follow : 9/11 11/13 7/8 13/14

18

10^10/(10^4*10^2) = 10^?

( )8
( )6
( )4
( )none

Explanation: 10^ (10 - 4 - 2) = 10 ^ 4

19

Unit digit in expansion of 2 raised to 51 is:

( )2
( ) 4
( )6
( )8

Explanation: 2 power 1 = ends with 2
2 power 2 = ends with 4
2 power 3 = ends with 8
2 power 4 = ends with 6
2 power 5 = ends with 2
then this cycle continues, so we can conclude that,
2 power 49 = ends with 2
2 power 50 = ends with 4

2 power 51 = ends with 8

20

Three wheels make 36, 24, 60 revolution/min. Each has a black mark on it. It is aligned at the start. When does it align again for the first time?

( ) 14seconds
( ) 20seconds
( ) 22seconds
( ) 5 seconds

Explanation: Take the LCM of Revolution per seconds. i.e. LCM of
36/60, 24/60, and 60/60. Answer is 5 sec.

21

If n x n x n is odd, then which is true ?
1. n x n is even
2. n x n is odd
3. n is odd

( ) 1 alone
( ) 1 and 2
( ) 2 and 3
( ) 2 alone

Explanation: We know that for any odd number, its square is odd. So again the cube will be odd. Hence, C is best answer. To check, just use n = 3, 5, 7 etc. also note that even numbers are ruled out in the analysis for obvious reasons.

22

A man invested Rs. 1552 in a stock at 97 to obtain an income of Rs. 128. The dividend from the stock is:

( ) 7.5%
( ) 8%
( ) 9.7%
( ) none of these

Explanation: By investing Rs. 1552, income = Rs. 128.
By investing Rs.97, income = Rs (128/1552) * 97 = Rs. 8

Therefore Dividend = 8%

23

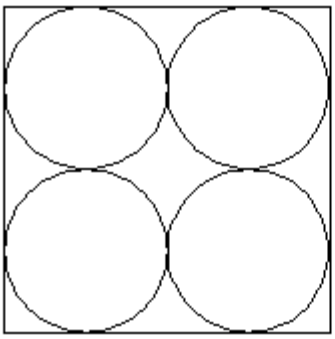
Ram has a box in which there are coins of denominations 50 paisa, 25 paisa, and 1 rupee. Total sum is Rs 210. Ratio of coins is 3: 4:2.5. What is the number of 50 paisa coins?

( )126
( )200
( )42
( )44

Explanation: Value equation is: (0.5 x 3X) + (0.25 x 4X) + (1 x 2.5X) = 210 => X = 42. Hence the number of 50 paisa coins is 42 x 3 = 126

24

Four identical circular coins of radius 1 cm are placed inside the square ABCD as in the diagram. Find the area occupied by the coins in ABCD



is?

( )3.4285
( )3.154
( )3.414
( )3

Explanation: As radius is 1 m
Then the total length = 4 meter
Area of square = 16m2
Area of circle = π * (1)2
Area uncovered by circle = Area of square - area of four circles = 16 -(π * 4) = 3.4285

25

The difference between the biggest and the smallest number formed by using 0, 1, 2, 3, and 4 exactly once is:

( )28000
( )32591
( )27143
( )41976

Explanation: Max no. = 43210 Min no. = 01234 = 1234 => Diff = 43210 - 1234 = 41976

26

Section B

Direction for Question 26 - 29

An employee has to allocate offices to 6 staff members. The offices are number 1-6 and the offices are arranged in a row and they are separated from each other by dividers hence voices, sounds and cigarette smoke flow easily from one office to another Miss R needs to use the telephone quite often throughout the day. Mr. M and Mr. B need adjacent offices as they need to consult each other often while working. Miss H is a senior employee and his to be allotted the office no. 5, having the biggest window. Mr. D requires silence in office next to his. Mr. T, Mr. M and Mr. D are all smokers. Miss H finds tobacco smoke allergic and consecutively the offices next to hers are occupied by non-smokers. Unless specifically stated all the employees maintain an atmosphere of silence during office hours.

1. The ideal candidate to occupy office farthest from Mr. B will be

( )Miss H
( )Mr. M
( )Mr. T
( )Mr. D

Explanation: Arrangements is as follows D T M B H R.

27

The three employees who are smokers should be seated in the offices

( )1 2 4
( )2 3 6
( )1 2 3
( )1 2 3

Explanation: Where D, T, M are smokers

And their seating position =>
D T M B H R.
1 2 3 4 5 6

28
The ideal office for Mr. M would be

( )2
( )6
( )1
( )3

Explanation:
Where D, T, M are smokers
And their seating position =>
D T M B H R.
1 2 3 4 5 6

29
In the event of what occurrence within a period of one month since the assignment of the offices would a request for a change in office be put forth by one or more employees?

( )Mr. D quitting smoking
( )Mr. T taking over duties formally taken care of by Miss R
( )The installation of a water cooler in Miss H's office
( )Mr. B suffering from anemia

Explanation: By checking the option

30
Direction for Question 30-32
Ten coins are distributes. Among 4 people P, Q, R, S such that one of them gets a coin, another gets 2 coins,3rd gets 3 coins, and 4th gets 4 coins. It is known that Q gets more coins than P, and S gets fewer coins than R.

If the number of coins distributed to Q is twice the number distributed to P then which one of the following. is necessarily true?

( )R gets odd number of coins
( )S gets even number of coins
( )S gets odd number of coins
( )none

Explanation: Let P gets 1 coin
Then Q gets 2 coins
R should get more then S i.e. possible only when R get 4 coins And S
gets 3 coins(considering S should get more coins then Q). So answer is C

31

If R gets at least two more coins than S which one of the following is necessarily true?

( ) Q gets at least 2 more coins than S
( ) Q gets more coins than P
( ) P gets more coins than S
( ) P and Q together get at least five coins

Explanation:

By checking the options

From given data S gets more coins than P and Q . And P & Q gets less than 5 coins

But Q gets more than P . So option B is true

32

If Q gets fewer coins than R, then which one of the following is not necessarily true?

( ) P and Q together get at least 4 coins
( ) Q and S together get at least 4 coins
( ) R and S together get at least 5 coins
( ) P and R together get at least 5 coins

Explanation: Let P gets 1 coin
Then Q gets 2 coins
R should get more then S i.e. possible only when R get 4 coins And S
gets 3 coins. So answer is A

33

Direction for Question 33-34

Elle is 3 times older than Zaheer. Zaheer is ½ as old as Waheeda.Yogesh is elder than Zaheer.What is sufficient to estimate Elle's age?

( ) Zaheer is 10 yrs old
( ) Yogesh and Waheeda are both older than Zaheer by the same no of yrs.

( )Both A&B
( )None of the above

Explanation: E = 3Z therefore A is enough

34

Which one of the following statements can be inferred from the info above

( )Yogesh is elder than Waheeda
( )Elle is older than Waheeda
( )Elle's age may be less than that of Waheeda
( )None of the above

Explanation: E = 3Z Z =(1/2)W
i.e. W = 2Z
Y > Z
E > W > Y > Z
From given data we know that B is enough

35

Direction for Question 36-37

A robot moves on a graph sheet with x-y axes. The robot is moved by feeding it with a sequence of instructions. The different instructions that can be used in moving it, and their meanings are:

Instruction	Meaning
GOTO(x,y)	move to pt with co-ordinate (x,y) no matter where u are currently
WALKX(P)	move parallel to x-axis through a distance of p, in the +ve direction if p is +ve and in -ve if p is -ve
WALKY(P)	move parallel to y-axis through a distance of p, in the +ve direction if p is +ve and in -ve if p is -ve

The robot reaches point (5,6) when a sequence of 3 instruction. Is executed, the first of which is GOTO(x,y) , WALKX(2), WALKY(4). What are the values of x and y??

( )2,4
( )0,0
( ) 3,2
( )2,3

Explanation:

(5,6) = ((x + 2) ,(y + 4))

Equating the above equation x + 2 = 5; x = 3,

y + 4 = 6; y = 2.

36

The robot is initially at (x, y), x>0 and y<0. The minimum number of Instructions needed to be executed to bring it to origin (0,0) if you are prohibited from using GOTO instruction Is:

( )2
( )1
( )x + y
( )0

Explanation: One instruction to move in x axes, another instruction to move in y axes

37

Direction for Question 38-41

Five teams participated in Pepsi Cup. Each team played against each other. The top teams played finals. A win fetched 2 points and a tie 1 point

1) South Africa(SA) were in the finals
2) India(Ind) defeated SA but failed to reach the finals
3) Australia(Aus) lost only one match in the tournament
4) The match between India and Sri Lanka(SRL) was a tie
5) The undefeated team in the league matches lost in the finals
6) England(Eng) was one of the best teams that did not qualify

Who were the finalists?

( )SA & India
( )SA & SL
( )Aus & SL
( )cannot be determined

Explanation:

	Aus	Ind	SA	SRL	Eng	Points
Aus	0	2	2	2	2	8
Ind	x	0	2	1	x	3
SA	x	x	0	2	2	4

SRL	x	1	x	0	2	3
Eng	x	2	x	x	0	2

Australia and South Africa went to finals

38

Who won the finals?

( ) Aus
( ) SRL
( ) SA
( ) Can't be determined

Explanation:

Aus	Ind	SA	SRL	Eng	Points
Aus	0	2	2	2	8
Ind	x	0	2	1	3
SA	x	x	0	2	4
SRL	x	1	x	0	2	3
Eng	x	2	x	x	0	2

From the statement that undefeated team in the league lost in the finals i.e. Australia, So South Africa won the finals.

39

How many matches did India Win?

( ) 0
( ) 1
( ) 2
( ) can't be determined

Explanation:

	Aus	Ind	SA	SRL	Eng	Points

Aus	0	2	2	2	2	8
Ind	x	0	2	1	x	3
SA	x	x	0	2	2	4
SRL	x	1	x	0	2	3
Eng	x	2	x	x	0	2

India won one match (neglecting tie)

40

What was the outcome of the India England Match

( ) India won
( ) England won
( ) It was a tie
( ) Can't be determined

Explanation:

	Aus	Ind	SA	SRL	Eng	Points
Aus	0	2	2	2	2	8
Ind	x	0	2	1	x	3
SA	x	x	0	2	2	4
SRL	x	1	x	0	2	3
Eng	x	2	x	x	0	2

England won against India

41

A boat can ferry 1500 passengers across a river in 12 hours. How many round trips does it make during the journey?
i. The boat can carry 400 passengers at a time
ii. During its journey, the boat takes 40 minutes time each way and 20 minutes waiting time at each end.

( ) using I only
( ) using II only
( ) either I and II
( ) Cannot be Determined

Explanation:

number of trips = (total number of passengers (1500)) / (number of passengers in each trip)

OR

number of trips = (total time i.e 12hr) / (time for each trip)

42

Sanjay and Vijay started their journey from Mumbai to Pune. Who reached Pune first?

i. Sanjay overtakes two times Vijay and Vijay overtakes Sanjay two times

ii. Sanjay started first

( ) using I only
( ) using II only
( ) using both I and II
( ) Cannot be Determined

Explanation:

As Sanjay starts journey first and they overtake each other equally, Sanjay reaches the Pune first

43

Is the GDP of Country X higher than Country Y?

i. GDP's of X and Y has been increasing at a compounded annual growth rate of 5% and 6% over the past 5 yrs

ii. 5 yrs ago GDP of X was 1.2 times Y

( ) using I only
( ) using II only
( ) using both I and II
( ) Cannot be Determined

Explanation: X = 1.2 time Y and they are increasing at rate 5% and 6% per year.

44

Raman and Gaurav Brought eggs from a vendor. How many eggs were bought by each of them

i. Raman bought half as many as Gaurav

ii.The dealer had a stock of 500 eggs at the beginning of day

( ) using I only
( ) using II only
( ) using both I and II

( )Cannot be Determined

Explanation:
From 1st statement Raman = (1/2) Gaurav data insufficient

45

What is the age of Ramprakash?
i. Ramprakash was born when his father was 26 yrs old
ii. Ramprakash's mother age is 3years less than his father's

( )using I only
( )using II only
( )using both I and II
( )Cannot be Determined

Explanation: Data insufficient

46

How much time is required for downloading the software?
i. The Data transfer rate is 6 kbps
ii. The size of the software is 4.5 megabytes

( )using I only
( )using II only
( )using both I and II
( )Cannot be Determined

Explanation:
Required time = (4.5 megabytes) / (6 kilobytes per sec).

47

How much is the weight of 20 mangoes and 30 oranges?
i. 1 orange weighs twice that of 1 mango
ii. 2 mangoes and 3 oranges weigh 2 kg

( )using I only
( )using II only
( )using both I and II
( )Cannot be Determined

Explanation:
2m + 3o = 2 1

O = 2m 2
2m + 3*(2m) = 2; m = (2/8) and o = (4/8)

48

What are the values of m and n?
i. n is an even integer, m is odd integer and m is greater than n.
ii.The product of m and n is 30

( )using I only
( )using II only
( )using both I and II
( )Cannot be Determined

Explanation:
m * n = 30
Where m > n, m is odd and n is even

49

Questions 49-50 are based on situations given below:
7 Uni crick players are to be honored at a special luncheon. The players will be seated on a dais along one side of a single rectangular table. A and G have to leave the luncheon early and must be seated at the extreme right end of table, which is closest to exit. B will receive Man of the Match and must be in the centre chair C and D who are bitter rivals for the position of Wicket keeper dislike one another and should be seated as far apart as possible E and F are best friends and want to seat together.
Which of the following may not be seated at either end of the table?

( )C
( )D
( )G
( )F

Explanation: **Seating arrangement** => D/C F E B D/C A G

50

Which of the following pairs may not be seated together?

( )E & A
( )B & D
( ) C & F

( )G & D

Explanation:
By checking the seating arrangement
D/C F E B D/C A G