Q1. The number of persons rose by 20% to 30,942 in a year. What was the population originally a year ago? [Level 1, Capegemini, Percentage]
1) 25,585 2) 25,785 3) 25,758 4) 23,785
Ans: 2
Solution: Population 1 year ago = (30942/120) x 100 = 25785

Q2. The population of a town is 1,25,000. If the annual birth rate is 12.7% and the annual death rate is 2.7%, how much will the population increase after 3 years? [Level 2, Wipro, Percentage]
1) 43,285 2) 41,375 3) 42,565 4) 40,275
Ans: 2
Population after 3 years = 125000(1+10/100)^3 = 166375
Increase in population = 166375 - 125000 = 41375

Q3. The marked price of a chair is Rs. 1600. After giving two successive discounts of 10% and y%, the chair is sold for Rs. 1368. What is the value of y? [Level 2, Wipro, Profit and Loss]
1) 7 2) 4 3) 5 4) 8
Ans: 3
net discount% = (232/1600)100 = 14.5%
10 + y - (10y/100) = 14.5
So, y = 5%

Q4. The marked price of an item was Rs. 480 but the shopkeeper offered a discount of 5%. At what price does he finally sell the item? [Level 2, Capegemini, Profit and Loss]
1) Rs. 435 2) Rs. 450 3) Rs. 466 4) Rs. 456
Ans: 4
Selling price = 95% of 480 = 456

Q5: Divide Rs. 2379 into 3 parts so that their amount after 2,3, and 4 years respectively may be equal, the rate of interest being 5% per annum at simple interest. The first part is [Level 3, SI and CI, TCS]
A. Rs. 828 B. Rs. 746 C. Rs. 248 D. Rs. 1024
Ans: A
Let the three parts are x, y and z respectively.
Interest on x is 2*5% in 2 years, so x becomes 110% of x
Similarly y becomes 115% of y in 3 years.
and z becomes 120% of z in 4 years.
ATQ
110x = 115y = 120z
or, 22x = 23y = 24z
So, x : y : z = 23*24 : 22*24 : 22*23 = 552 : 528 : 506
X = (2379/1586)*552 = 8

Q6. In what ratio tea of Rs. 60 per kg should be mixed with tea of Rs. 70 per kg so that on selling the mixture at Rs. 80 per kg there is a profit of 25%? [Level 3, Mixture and Alligations, Infosys]
1) 3 : 2 2) 2 : 3 3) 5 : 2 4) 4 : 1
Ans: 1

Solution:

Cost of tea1 = Rs. 60/kg
Cost of tea2 = Rs. 70/kg
Selling price of the mixture = Rs. 80/kg
Profit = 25%
Cost price of the mixture = (80/125)100 = Rs. 64/kg
Using rule of alligation, we get,
So, the required ratio = (70 – 64) : (64 – 60) = 6 : 4 = 3 : 2

Q7. The cost of diamond varies directly as the square of its weight. Once, this diamond broke into four pieces with weights in the ratio 1 : 2 : 3 : 4. When the pieces were sold, the merchant got Rs.70,000 less. Find the original price of the diamond. [Level 3, Ratio, proportion and Variation, TCS]
[1] Rs.1.4 lakh [2] Rs.2 lakh [3] Rs.1 lakh [4] Rs.2.5 lakh
Ans: 3
Let the original weight of the diamond be 10x. Hence, its original price will be $k(100x^2)$, where k is a constant. The weights of the pieces after breaking are x, 2x, 3x and 4x. Therefore, their prices will be kx^2, $4kx^2$, $9kx^2$ and $16kx^2$. So the total price of the pieces = $(1 + 4 + 9 + 16)\ kx^2 = 30kx^2$.

Hence, the difference in the price of the original diamond and its pieces = $100kx^2 – 30kx^2 = 70kx^2$ = 70000. Hence, kx^2 = 000 and the original price = $100\ kx^2 = 100 \times 1000 = 100000$ = Rs.1 lakh.

Q8. 12 men or 20 boys can finish a work in 10 days. What part of the same work will be done by 4 men and 4 boys in 4 days? [Level 2, Wipro, Time and Work]
1) 49/75 2) 16/75 3) 26/75 4) 59/75
Ans: 2
Solution
Given: 12 men or 20 boys can finish a work in 10 days.
Here, 12M = 20B
⇒ M : B = 20 : 12 = 5 : 3
12 men can finish a work in 10 days.
Let the total work = 12 × 5 × 10 = 600 units
Now, the work done by 4 men and 4 boys in 4 days
= [(4 × 5) + (4 × 3)] × 4
= 32 × 4
= 128 units
The required part of the work = 128/600 = 16/75

Q9. A can do a piece of work in 10 days. B can do it in 15 days. With the assistance of C, they completed the work in 5 days. How many days C alone can do it? [Level 2, Wipro, Time and Work]
1) 20 2) 25 3) 30 4) 35
Ans: 3
1/C = 1/5 - 1/15 - 1/10
C = 30

Q10. 6m61 is divisible by 11. What is the value of m? [Divisibility, Level 2, Capegemini]

1) 0 2) 4 3) 3 4) 5

Ans: 1

Key Concepts
Using the divisibility rule of 11 which says the sum of the digits at an even place minus the sum of the odd place should be 0 or divisible by 11.

Q11. The number of factors of 196 which are divisible by 4 is:
1) 228 2) 4 3) 57 4) 3 [Factors, Level 2, Capegemini]
Ans: 4
Solution
The number of factors of 196 = 2 × 2 × 7 × 7
2 × 2 = 4 is divisible by 4.
2 × 2 × 7 = 28 is divisible by 4.
2 × 2 × 7 × 7 = 196 is divisible by 4.
So, the required number is 3.

Q12. The number of zeros at the end of the product of
$222^{111} \times 35^{53} + (7!)^{6!} \times (10!)^{5!} + 42^{42} \times 25^{25}$ is [Trailing zeroes, Level 2, Infosys]
1) 42 2) 53 3) 1055 4) None of these
Ans: 1

The number of zeros at the end of $222^{111} \times 35^{53}$ is 53.

The number of zeros at the end of $(7!)^{6!} \times (10!)^{5!}$ is 960.

The number of zeros at the end of $42^{42} \times 25^{25}$ is 42.

Thus the number of zeros at the end of the whole expression is 42.

Q13. Find the Unit digit of 287^{562581} [Unit digit, Level 1, Capegemini]
1) 3 2) 7 3) 1 4) None of these
Ans: 2
Solution:
Step 1: We know that the cyclicity of 7 is 4.
Step 2: Divide the power 562581 by 4.
By doing that, we get a remainder=1.
Step 3: 1st power in the power cycle of 7 is 7.
Hence, the answer is 7.

Q14. A shopkeeper has a sale of Rs. 10,000, Rs. 7,500, Rs. 8,000, and Rs. 10,500 for 4 consecutive months. How much sale must he have in the fifth month so he gets an average sale of Rs. 9,000 in five months? [Average, Level 2, Wipro]
1) Rs. 10,200 2) Rs. 8,500 3) Rs. 11,000 4) Rs. 9,000
Ans: 4
Total = Average × Number of observations

Q15. Find the vale of E+A+T. (Infosys)
EAT + THAT = APPLE
A) 17

B) 18
C) 19
D) None of these

Answer – B

Hint – use hit and trail method and crypt concept