Directions of Test

Test Name	LPU CA 02 - 07 (A)	Total Questions	30	Total Time	50 Mins

Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Section 1	6	0:10(h:m)	1	1/4
Section 2	6	0:10(h:m)	1	1/4
Section 3	6	0:10(h:m)	1	1/4
Section 4	6	0:10(h:m)	1	1/4
Section 5	6	0:10(h:m)	1	1/4

Section : Section 1

QNo:- 1 ,Correct Answer:- *D*

Explanation:-

Let the present ages of A and B be A yrs and B yrs respectively.

7 years ago, the ratio of ages of A and B was 4:5

i.e. $\frac{A-7}{B-7}=\frac{4}{5}\Rightarrow 5A-4B=7$

7 years hence, the ratio of ages of A and B will be 5:6

i.e. $\frac{A+7}{B+7}=\frac{5}{6}\Rightarrow 6A-5B=-7$

Solving the above equations, we get B = 77 yrs

QNo:- 2 ,Correct Answer:- *B*

Explanation:-

Let the ages be x and y.

So we have $\frac{1}{x}+\frac{1}{y}=5\times\left(\frac{1}{x}-\frac{1}{y}\right)$

=> x + y = 5y – 5x
=> 6x – 4y = 0
=> 3x – 2y = 0 .....(i)

Also $\frac{xy}{x+y}=14.4$ .....(ii)

=> Solving these two equations, we get x = 24 years and y = 36 years.

QNo:- 3 ,Correct Answer:- A

Explanation:-
Let the ages of the elder and the younger sister are x and y respectively.

Now in first case, $\frac{x+1}{y}=2$
=> x – 2y = - 1 ....(i)
In the second case, $\frac{x}{y-2}=3$
=> x – 3y = - 6 .....(ii)

Solving equations (i) and (ii), we get x = 9 years and y = 5 years.

QNo:- 4 ,Correct Answer:- D

Explanation:-
Let Mohan's age is 'x' yrs
Ramesh's age is (x + 24) yrs
After 5 yrs Mohan's age is 'x + 5' yrs
Ramesh's age is (x + 24+5) yrs i.e. (x + 29) yrs
Now x+29 = 5(x + 5)
⇒x+29 = 5x + 25
⇒ 4x = 4
⇒ x = 1
age of Mohan is 1 year

QNo:- 5 ,Correct Answer:- A

Explanation:-
Let Ram's age five yrs ago = 4x and Shweta's age five yrs ago = 3x
Five years hence Ram's age = 4x + 10 and Shweta's age = 3x+10
(4x + 10) : (3x + 10) = 13 : 12
⇒12(4x + 10) = 13(3x + 10) ⇒ 48x + 120 = 39x + 130 ⇒ 48x – 39x = 130 – 120
⇒9x = 10 ⇒x = 10/9
Shweta's present age = 3x + 5 = 3 × 10/9 + 5 = 10/3 + 5 =25/3 yrs

QNo:- 6 ,Correct Answer:- C

Explanation:-
Let present age of the father be 2x years.∴ Anil's age = x years.
Fifteen years ago,Anil's age= x-15 and his Father's age= 2x-15
Fifteen years ago, he was one-third of his father's age. it means ratio of Anil and his father's age is 1:3
(x-15)/(2x-15)= 1/3
∴ 3 × (x – 15) = 2x – 15
So, 3x – 45 = 2x – 15
x = 30 years
present age of Anil= 30 years.
Anil's age after five years
= 30 + 5 = 35 years

Section : Section 2

QNo:- 7 ,Correct Answer:- B

Explanation:-
ATQ
M +K + L+ J = 60
M = (1/2) (K + L+ J)
M =(1/2) (60- M).
So M = 20.
K = (1/3) (M + L+ J)
K = (1/3)(60 - K)
So K = 15
and L = (1/4)(M + K + J)
L = (1/4) (60 - L)
So L = 12.
Therefore M + K + L = 20 + 15 + 12 = 47.
And J = 60 – 47 = 13.

QNo:- 8 ,Correct Answer:- D

Explanation:-
In this question, as per the information given we cannot determine how many are males and how many are females out of 16 participants who left. So, data is insufficient to answer the given question.

QNo:- 9 ,Correct Answer:- A

Explanation:-
After the shares of Anita, Bimdu and Champa are reduced by Rs 10, Rs 20 and Rs 15 respectively,
the remaining total = (1105 – 45) = Rs 1060.
Out of this, Champa's share = Rs 24/53 × 1060 = Rs 480. So the original share of Champa = Rs. 480 + 15 = Rs 495.
Hence, option A is the correct answer.

QNo:- 10 ,Correct Answer:- D

Explanation:-
Ratio of the amounts collected in the two classes is 1 x 3 : 50 x 1
=> 3 : 50
Therefore, amount collected by II class is,
$\frac{50}{53} \times 1325 = 1250$

QNo:- 11 ,Correct Answer:- *C*

Explanation:-
Let the total property of man be Rs.x.

So, the share of wife = $\frac{1}{2}x$ and share of son = $\frac{1}{3}x$.

Total property given to wife and son = $\frac{1}{2}x + \frac{1}{3}x = \frac{5}{6}x$.

⇨ Remaining $\frac{1}{6}x$ is given to daughter and it is equal to Rs.45,000.

⇨ $\frac{1}{6}x = 45000$

⇨ X = 2,70,000

QNo:- 12 ,Correct Answer:- *C*

Explanation:-
Let full marks in each paper = 100. Therefore total marks = 500. Her score = 300.
Ratio = 6 : 7 : 8 : 9 : 10. Hence her scores are 45, 52.5, 60, 67.5 and 75. So she got more than 50% in 4 subjects.

Section : Section 3

QNo:- 13 ,Correct Answer:- *B*

Explanation:-
Each eats (5 + 3)/3 = 8/3 loaves. Ratio of money that they should share is (5 - 8/3) : (3 - 8/3) = 7/3 : 1/3 or
7:1. So first should receive 7.

QNo:- 14 ,Correct Answer:- *B*

Explanation:-
Let the capital of Rajani was invested for x months.
So (5 × 8)/(6 × x) = 5/9. Solving this, we get x = 12
Option B

QNo:- 15 ,Correct Answer:- *D*

Explanation:- *as Profit = Investment x Time*
so ratio of their share of profit
= 42 x 12 : 57 x 8 = 21 : 19
given that total profit = 26000
let profit earned by Pankaj and Nitin is 21A and 19A respectively , so 21A +19A =26000 => A = 650
so difference of their profits is 21A -19A =2A = 2x650 =1300

QNo:- 16 ,Correct Answer:- *A*

Explanation:-
Mansi = Rs 42000 for 12 months. So total capital = 12 x 42000
Kamya = Rs. 50000 for 5 months. So total capital = 5 x 50000
Hence, profit ratio = 42000 x 12 : 50000 x 5 = 252 : 125
Total Profit = Rs. 30160
Therefore, Kamya's profit = 125 x 30160/377 = 125 x 80 = Rs. 10000
Hence, option A is the correct answer.

QNo:- 17 ,Correct Answer:- *C*

Explanation:-
Ratios of their investments=$12000\times12: 9000\times7=16:7$

So Profit of Meenakshi $=\frac{16}{23}\times4416=$Rs. 3072

QNo:- 18 ,Correct Answer:- *A*

Explanation:-
We know, Total Investment = Amount invested x Number of months.
Let both P and Q invest for 12 months.
Let the amount invested by P is Rs. x
Ratio of Profit share for P & Q = Ratio of their investment
=> 1:4 = x x 12 : 35000 x 12
=> 1/4 = x/35000
=> x = Rs. 8750

Hence, option A is the correct answer.

Section : Section 4

QNo:- 19 ,Correct Answer:- *B*

Explanation:-
Let the volume of vessel A be x. Thus it has 4/7 parts milk. Let the volume of vessel B be y. It has 2/5 parts milk. Thus 4/7 x + 2/5 y = ½ (x+y). Solving we get the ratio as 7:5.

QNo:- 20 ,Correct Answer:- *C*

Explanation:-

CP of water = Rs 0
CP of milk = Rs 12
Using Alligations, we get
ratio of water to milk = (12-10) : (10 - 0) = 2: 10 = 1: 5
Therefore, the required ratio = 1 : 5.

QNo:- 21 ,Correct Answer:- *D*

Explanation:-
Let food X = x gm.
Then food Y = 300 – x gm.
Now 10% of x + 15 % of (300 – x) = 38
=> 10 x + 4500 - 15 x = 3800;
=> 5 x = 700;
=> x = 140

QNo:- 22 ,Correct Answer:- *C*

Explanation:-
The 2 litres given to Shamu contain milk and water in the ratio 9:1, i.e., 1.8 litres of milk and 0.2 litres of water. The remaining 18 litres contains 16.2 litres of milk and 1.8 litres of water. After adding tap water, the ratio of milk to water becomes 9:10. the quantity of tap water is 16.2 × 10/9 = 18 litres. Since the mixture already has 18 litres, the total quantity now becomes 36 litres. The total revenue is 36 × 50 + 2 × 50 (already sold) = 1900. The total cost is 900 + (2 × 15) = Rs. 930. Thus his profit is 1900 - 930 = Rs. 970

$\Rightarrow \frac{970}{930} \times 100 = 104\%$

QNo:- 23 ,Correct Answer:- *C*

Explanation:-
In First alloy, Ratio of copper and zinc is 4:1.
So the ratio will be 8:2 for 10 kg.
In Second alloy, Ratio of copper and zinc is 1:3
So the ratio will be 4:12 for 16 kg.
They are mixed together to get new copper and zinc ratio 12:14
Now, because of adding pure copper, resultant ratio is 3:2. Let pure copper added = x kg
and we have 12:14 which means
(12+x) / 14 = 3/2
x = 9
So, 9 kgs of pure copper should get added to get 3:2 ratio.
So total addition of mixture is 12 + 14 + 9 = 35 kg.

QNo:- 24 ,Correct Answer:- *B*

Explanation:-
The trader makes of profit of 2/9th when he sells the mixture for Rs 46.20 / kg.
So the cost of the mixture is (46.2 × 9) / 11= Rs 37.80 / kg.
Suppose he mixes x, y and z kg of these respectively. Then, 34.5x + 36.5y + 41.2z = 37.8(x + y + z).
Simplifying this equation, we get 3.3x + 1.3y = 3.4z.
From the answer choices, the only set of values satisfying this equation is 5 : 3 : 6.

Section : Section 5

QNo:- 25 ,Correct Answer:- C

Explanation:-
Since the overall volumes have not changed and the liquids have merely swapped places, the volume of each liquid removed is equally replaced by other liquid. Hence their presence would be same in both.
Hence, the correct answer is option C.

QNo:- 26 ,Correct Answer:- C

Explanation:- The total quantity of the milk that he consumed is 1l or 1000 ml.
The total quantity of water consumed = total mixture consumed – total milk consumed
= [4% of 1000 + 8% of 1000 + 12% of 1000 + ---- + 96% of 1000 + 100% of 1000] – 1000

$$=\left(\frac{4+8+12+---+96}{100}\right)\times 1000+1000-1000$$

$$=\frac{24}{2}(4+96)\times\frac{1}{100}\times 1000=12\times 1000$$

∴ The required ratio is 1000 : 12 × 1000 or 1 : 12

QNo:- 27 ,Correct Answer:- B

Explanation:- Milk = 10 liters
Water = 30 liters
As 4 liters of mixture is removed and replaced with pure milk
So Milk = 10 – 1 + 4= 13 liters
Water = 30 – 3 = 27 liters
Now ratio of Milk and Water = 13:27
As process is repeated one more so we have
Milk = 13 - 1.3 + 4 = 15.7 liters
Water = 27 – 2.7 = 24.3 liters
Required ratio = 157:243

QNo:- 28 ,Correct Answer:- A

Explanation:- Initial quantity of suger syrup = x = 256 ml
Quantity removed each time = y = (1/4)x = 64 ml
As process is repeated 4 times, so we have n = 4
Suger syrup left = $x[1 – (y/x)]^n$
= $256[1 – (64/256)]^4$
= $256 (3/4)^4$ = 81 ml

QNo:- 29 ,Correct Answer:- A

Explanation:-
Let 'a' be the initial quantity of milk and 'b' be the quantity of milk or mixture replaced each time and b = a/4. the volume of mixture left after 2nd (or nth)operation is equal to the initial quantity of milk in the flask as every time, the quantity taken out and replaced is the same.
Thus milk left after third operation:initial milk = $(a-b/a)^n$ =27/64Now, ratio of milk and water = 27 : (64-27) = 27:37

QNo:- 30 ,Correct Answer:- *D*

Explanation:- *Initial quantity of alcohol = x = 35 liters*
Quantity removed = y = 7 litres
And n = 3
Alcohal left = $x[1 – (y/x)]^n$
Alcohol left/ x = $[1 – (7/35)]^3$
Alcohal/(Alcohal + Water) = 64/125
So 1 + Water/Alcohal = 125/64
Water/Alcohal = 61/64
Required ratio = 64:61