Directions of Test

Test Name	LPU CA 02 - 05 (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:- *A*

Explanation:- *Let her age at the time of marrige be B. So her present age will b e B + 8.*
As per the question
*B*15/11 = B + 8 => B = 22. So her present age is 22 + 8 = 30. Now her daughter age is 1/10th of her age.*
*Now 30*1/10 = 3 years.*

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

Explanation:- *72 years*
Explanation :
Arun's age = x
Varun's age = y
x/y = 4/5
y – (x + 5) = 3
y – x = 8
y = 8 + x
x/8 + x = 4/5
x = 32 years
y = 40 years.
x + y = 72 years.

QNo:- 3 ,Correct Answer:- *D*

Explanation:- *Let the present age of Anu and Balbir be 5x and 3x respectively. Then, given, (5x – 4)/(3x + 4) = 1/1.*
Hence, 5x – 4 = 3x + 4; or, 2x = 8, x = 4. Hence, present age of Anu and Balbir are 20 and 12 years respectively.
The ratio between Anu's age 4 years hence and the Balbir's age 4 years ago = (20 + 4)/(12 – 4) = 24/8 = 3 : 1.

QNo:- 4 ,Correct Answer:- B

Explanation:- Let the present age of Abhay = A and his father's age = F

$$A + 6 = \frac{3}{7}(F + 6) \Rightarrow 7A - 3F + 24 = 0$$

$$\text{Also, } \frac{A - 10}{F - 10} = \frac{1}{5} \Rightarrow 5A - F - 40 = 0$$

Solving, A = 18 and F = 50

QNo:- 5 ,Correct Answer:- D

Explanation:- Let 10 years ago, age of son = x years
An age of father = 3x years
So present age of son = x+ 10 years & present age of father = 3x + 10 years
10 years later, age of father = 3x + 20 years
10 years later, age of son = x + 20 years
ATQ. 3x + 20 = 2 (x + 20)
⇒ x = 20
∴ present age of father = 3 × 20 + 10 = 70 years
Present age of son = 20 + 10 = 30 years
∴ Ratio = 70/30 = 7:3
Hence option 4

QNo:- 6 ,Correct Answer:- B

Explanation:- Let the age of Rita 2 years back = x years Hence Pushpa's present age = 2x and Rita's present age = x + 2. Now we have,
2x – (x + 2) = 2
⇒ x – 2 = 2
⇒ x = 4.
Hence the age of Pushpa is 2x = 2 × 4 = 8 years.

Section : Section 2

QNo:- 7 ,Correct Answer:- B

Let the number of girls is x. We have

$$\frac{144}{x} = \frac{9}{7}$$

Explanation:- ⇒ x = 112.

QNo:- 8 ,Correct Answer:- D

Explanation:- Consider a = 3, b = 4 and c = 7. So required value = 14/7 = 2. So option 4.

QNo:- 9 ,Correct Answer:- *A*

Explanation:- *Given ratio is 5 : 7 : 8. So grilled sandwiches would be 7/20 × 120 = 42. Hence 1st option.*

QNo:- 10 ,Correct Answer:- *C*

Explanation:-
Ram's share out of Rs. 1500 = 1/(1+2+2+1) × 1500 = 1500/6 = Rs.250
Rohan's share out of Rs. 1500 = 1/(1+2+2+1) × 1500 = 1500/6 = Rs.250
Total share of Ram and Rohan = Rs. (250 + 250) = Rs. 500

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

Explanation:-
Since $\frac{4}{9}P = \frac{13}{25}Q$

So, $\frac{P}{Q} = \frac{13}{25} \times \frac{9}{4} = \frac{117}{100}$

Now, P's share $= 1519 \times \frac{117}{217} = 819$

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

Explanation:-
Amar = 2 × Rohit and Rohit = 3 × Chanda
Amar = 6 × Chanda
Ratio of speeds of Amar , Rohit and chanda is = 6:3:1
Distance is same. therefore, ratio of their time= 1/6 :1/3:1=> 1:2:6
let the time taken by Amar , Rohit and Chanda is x, 2x and 6x respectively.
so, 6x=42min.
=> x=7min.
Time taken by Amar = x= 7 min.

Section : Section 3

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

Explanation:-

Investment Ratio of A:B:C = 1,20,000:1,35,000:1,50,000 = 8:9:10

$\text{Profit Share of C} = \frac{10}{8+9+10} \times 56,700 = \text{Rs } 21,000$

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

Explanation:-

Investment of A = 50,000 × 12. Investment of B = 60,000 × (12 – *x*).
Investment of C = 70,000 × (12 – *x*). Therefore, ratio of investment = A : B : C =
[50,000 × 12] : [60,000 × (12 – x)] : [70,000 × (12 – *x*)] = 20 : 18 : 21

$\Rightarrow \frac{[50,000\times 12]}{[60,000\times(12-x)]} = \frac{20}{18} \Rightarrow x = 3.$

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

Explanation:-

We know, Total investment = Amount invested x number of months
Ratio of profit share for P & Q = Ratio of their investments
Suppose Q joined after x months. Then, Q's money was invested for (12 - x) months.

Therefore, $\frac{80000\times 12}{60000\times(12-x)} = \frac{4}{1} \Rightarrow$ x = 8 months

Hence, option C is the correct answer.

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

Explanation:-

Ratio of Investment =1250 : 850
= 25 : 17
60% Shared in the ratio of 25:17
Difference

$\frac{60k\times 25}{42} - \frac{60k\times 17}{42} = \frac{60k\times 8}{42}$

$\frac{60k\times 8}{42} = 30 \Rightarrow 100k = \frac{30\times 42\times 100}{60\times 8} = 262.5$

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

Explanation:-

In a Profit of 880

'A' Managing Share $\left(12.5\% = \frac{1}{8}\text{th}\right) = 110$

Rest i.e. 770 divided in the ratio 5:6

A receive $\frac{5}{11}\times 770 = 350$

A receives 350+110=460

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

Explanation:-

Percentage increase in profit = 3%.
Increase in A's share = 270.
*Total increase in profits will be 270 * 10/9 = 300.*

*As it is given to be 3% of capital, hence the capital will be 300 * 100/3 = 10000. In that the capital of A is 9000. The remaining 1000 is the capital of B & C in two equal parts i.e. 500 each.*

Section : Section 4

QNo:- 19 ,Correct Answer:- A

Explanation:- $\text{Cost price of mixture} = 300 \times \frac{100}{125} = 240$

Lets quantity of 1st variety = x
A.T.Q.

$$\frac{200x + 260 \times 52}{52 + x} = 240$$

X = 26

QNo:- 20 ,Correct Answer:- D

Explanation:- $\text{Milk} = 60 \times \frac{2}{3} = 40$

Water = 60 – 40 = 20
ATQ.
(60 + x) 2/3 = 20 + x
x = 60

QNo:- 21 ,Correct Answer:- D

Explanation:- $\text{Cost price of the mixture} = \frac{20 \times 3 + 28 \times 2}{5} = 23.2 \text{ Rs/kg}$

SP of mixture = Rs 24/kg

*% gain = (.8/23.2)*100=3.45*

QNo:- 22 ,Correct Answer:- B

Explanation:-
Applying allegation
Using alcohol
3/7.....5/11
4/9
1/99.....1/63

So 63 : 99 = 7 : 11
So 7 litres of first mixture and 11 litres of second mixture.

QNo:- 23 ,Correct Answer:- C

Explanation:- *Let the capacities of the three vessels be 100, 100 and 400 respectively.*
Then the milk and water in the three vessels is 40 & 60, 60 & 40 and 100 & 300
When all the three vessels are emptied in a large vessel, the milk and water in the large vessel is 200 and 400 respectively.
Now the ratio of milk is lesser than the water, so mixture of the vessel which can increase the ratio to 1:1 is vessel no. 2
We have to empty the mixture equivalent of the second vessel 10 more times to make the ratio of milk and water 1:1.
So the value of x = 10

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

Explanation:- *As 1 litre of 1st and 2 litres of 2nd mixture are mixed, so total content = 1000 + 2000 = 3000 ml.*

$$\text{Only } 1^{st} \text{ mixture has juice} = \frac{2}{10} \times 1000 = 200\text{ml}$$

$$\text{Hence required fraction} = \frac{200}{3000} = \frac{1}{15}$$

Section : Section 5

QNo:- 25 ,Correct Answer:- *C*

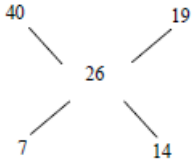
Explanation:-

	Fruit Juice	:	Water
Initial	8	:	7
After 1st step	(2/3)(8)		5+ (2/3)(7) = 29/3
After 2nd step	(2/3)(2/3)(8)		(29/3)(2/3) + 5 = 103/9
Which gives	32		103

Hence the ratio of fruit juice and water 32: 103.

QNo:- 26 ,Correct Answer:- *A*

Explanation:-
Using allegation we have,



So the ratio of the two mixtures is 1: 2. Now since the mixture is replaced by 19% water, as per the ratio, the quantity replaced is

$\frac{2}{3}$

QNo:- 27 ,Correct Answer:- *A*

Explanation:-
Quantity of wine replaced = 5/ 25 = 1/5 th , hence

$$\text{Quantity of a wine left in the cask} = \left(1-\frac{1}{5}\right)^3 = \left(\frac{4}{5}\right)^3 = \frac{64}{125} \quad \therefore \text{Quantity of water left in the cask} = 1-\frac{64}{125} = \frac{61}{125}$$

$$\therefore \text{Required ratio} = \frac{64}{125} \Big/ \frac{61}{125} = \frac{64}{61} = 64:61.$$

Hence the answer is option A.

QNo:- 28 ,Correct Answer:- *C*

Explanation:- *Final proportion of paint = 49/64 = (7/8) ^2*
So which means (1 - 7/8) = 1/8 of the mixture was being taken out.
*So Total *1/8 = 5*
Total = 40

QNo:- 29 ,Correct Answer:- *B*

Explanation:-
Assume that a container contains x of liquid from which y units are taken out and replaced

by water. After n operations, the quantity of pure liquid

$$= x\left(1 - \frac{y}{x}\right)^n$$

Therefore, as per formula, $[(x - 20)/x]^3 = 125 : 343$
⇒ x = 70 litres

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

Explanation:-

By using the formula we see that $\frac{F}{I} = \left(1 - \frac{x}{t}\right)^2$ *where F, I are the final and the initial value of the oxygen and x and t are the mixture removed and the total mixture.*

So solving we get $\frac{9}{16} = \left(1 - \frac{x}{8}\right)^2$, so x = 2 litres.