



Quantitative Aptitude

Topic- Time & Work

1. A Group have total 36 members worked in a company in which number of Men, Women and Children is in the ratio of 4:3: 2 and wages earned by Group be Rs.1440. If efficiency of 1 man, 1 Woman and 1 Children is in theratio of 5:4:2, then Find out wages earned by a man in the group?

- a) Rs.45
- b) Rs.50
- c) Rs.43
- d) Rs.55

Correct Choice: b

ATQ, Number of Men, Women and Children be 16, 12 and 8 respectively.

So, Total efficiency of all Men, all Women and all Children are in the ratio =
 $16 \times 5 : 12 \times 4 : 8 \times 2 = 5:3:1$

Wages earned by all Men = $\frac{5}{9} \times 1440 = Rs. 800$

Wage earned by on man = $\frac{800}{16} = Rs. 50$



Topic - Simple Interest - Compound Interest

2. Deepak borrowed certain sum of money From ICICI bank and he will pay it in three equal installments of Rs. 1029. If rate of interest is $16\frac{2}{3}\%$ per annum compounded annually, then find out the Money borrowed by Deepak?

- a) Rs. 2452
- b) Rs. 2536
- c) Rs. 2286
- d) Rs. 2324

Correct Choice: c

Explanation:

Let the Money borrowed by Deepak =Rs. P

And installment =Rs. A = 1029 Rs.

ATQ,

$$(P) = \frac{A}{\left(1 + \frac{r}{100}\right)^3} + \frac{A}{\left(1 + \frac{r}{100}\right)^2} + \frac{A}{\left(1 + \frac{r}{100}\right)^1}$$

$$P = \frac{216}{343}A + \frac{36}{49}A + \frac{6}{7}A$$

$$P = \frac{A \times (216 + 252 + 294)}{343}$$

$$P = \frac{1029 \times 762}{343} = \text{Rs. } 2286$$

So, required result =Rs. 2286

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Topic - Percentages

3. Income of A and B is in the ratio of 2 : 1 and expenditure of both are same. If saving of B is 80% less than that of A and Average Expenditure of A & B is Rs. 30000, then find out the income of A?

- a) Rs. 75000
- b) Rs. 72000
- c) Rs. 84000
- d) Rs. 80000

Correct Choice: d

Explanation:

Let income of A and B be $2x$ and x respectively.

Expenditure of A and B is same, so will be equal to Rs.30000.

And, Saving of A and B is in the ratio of 5:1.

$$\frac{2x-30000}{x-30000} = \frac{5}{1}$$

$$x = \text{Rs.}40000$$

required result =Rs.80000



Topic - Problems on Trains

4. Two trains A and B having length of 'X' meters and 'X+100' meters respectively. When both trains running in opposite direction, they cross each-other in $13\frac{1}{3}$ sec, while when both trains are running in same direction then faster train takes 120 sec to pass the slower train Completely. if the speed of faster train is 18 kmph more than that of slowertrains, then find Speed of the faster train?

- a) 84 kmph
- b) 64 kmph
- c) 96 kmph
- d) 90 kmph

Correct Choice: d

Explanation:

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Let Speed of both trains are S and S+18 kmph.
ATQ, when both the train are going in same direction.

$$\frac{X + X + 100}{18 \times \frac{5}{18}} = 120$$

$$X=250.$$

And, when both the trains are going opposite direction.

$$\frac{250 + 250 + 100}{(S + S + 18) \times \frac{5}{18}} = 13 \frac{1}{3}$$

$$2S+18=162$$

$$S = 72 \text{ kmph}$$

$$\text{Speed of faster train} = 72+18 =90 \text{ kmph.}$$

Topic - Partnership

5. Veer, Aayush and Deepak started a business, Veer's invested is 40% of total investment and Aayush & Deepak's invested in the ratio of 3:2. If they distributed profit in the ratio of their respective investment and Veer's profit share is Rs.37.5 more than Profit share of Aayush, then find the total Profit?

- a) Rs. 957.5
- b) Rs. 923.5
- c) Rs. 937.5
- d) Rs. 945

Correct Choice: c

Explanation:

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Let total investment in the business = Rs. 100x

Veer's investment = Rs. 40x

Aayush and Deepak investment are Rs.36x and Rs.24x respectively.

$$\text{Required result} = \frac{37.5}{40x-36x} \times 100x = \text{Rs. } 937.5$$

Topic - Areas & Volumes

6. A Cone and a Cylinder have equal bases and height of Cone is two times to that of Cylinder. If Volume of Cylinder is 3234 cm³ more than that of the Cone, then find out the Volume of Cylinder?

- a) 9702 cm³
- b) 7232 cm³
- c) can't be determined
- d) 9456 cm³

Correct Choice: a

Explanation:

Let the radius of both Cone and Cylinder = r cm.

and, height of Cone = 2h,

Then height of Cylinder = h.

ATQ,

$$\pi r^2 h - \frac{1}{3} \pi r^2 \times 2h = 3234$$

$$\frac{1}{3} \pi r^2 h = 3234$$

$$\text{So, required result} = 3234 \times 3 = 9702 \text{ cm}^3.$$



Topic - Profit & Loss

7. Vijay sold article A at 20% profit and article B at $14\frac{2}{7}\%$ loss. If Cost Price of article A is equal to selling Price of article B, then find out overall profit or loss percentage?

a) $1\frac{5}{13}\%$

b) $2\frac{3}{13}\%$

c) $2\frac{7}{13}\%$

d) $1\frac{7}{13}\%$

Correct Choice: d

Explanation:

Let Cost price of Article B = Rs. $70x$

So, Selling Price of Article B = $70x \times \frac{6}{7} = Rs. 60x$

Now, Cost price of Article A = Rs. $60x$

So, Selling price of Article A = $60x \times \frac{6}{5} = Rs. 72x$

Required percentage = $\frac{(72x+60x)-(70x+60x)}{70x+60x} \times 100$

$$= \frac{100}{65}\% = 1\frac{7}{13}\%$$

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Topic - Permutations & Combinations

8. A Group of 3 members is to be made from 5 men and 3 women, findout the probability of getting the group which have at least one man?

- a) 11/12
- b) 55/56
- c) 53/56
- d) 51/56
- e) 7/12

Correct Choice: b

Explanation:

ATQ,

Number of possible combinations are: Group made by 1 man and 2 women or 2 men and 1 woman or 3 Men.

$$\begin{aligned} \text{Required result} &= \frac{{}^5C_1 \times {}^3C_2 + {}^5C_2 \times {}^3C_1 + {}^5C_3}{{}^8C_3} \\ &= \frac{55}{56} \end{aligned}$$

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Topic - Averages

9. Average age of all students in a class is 16 years. Out of which 40% are boys and the ratio of the average age of all girls to that of all boys is 6 :
7. If there are fifty students in the class, then find the average age of all the boys .

- a) 17.5 years
- b) 12.5 years
- c) 21.5 years
- d) 16.5 years

Correct Choice: a
Explanation:

$$\text{Number of boys} = 50 \times \frac{40}{100} = 20$$

$$\text{So, number of girls in class} = 50 \times \frac{60}{100} = 30$$

Let the average age of boys be $7a$
and average age of girls = $6a$

ATQ,

$$16 \times 50 = 30 \times 6a + 7a \times 20$$

$$a = \frac{16 \times 50}{320}$$

$$a = 2.5 \text{ years}$$

$$\text{Average age of all boys} = 2.5 \times 7 = 17.5 \text{ years}$$



Topic - Mixtures & Allegations

10. An alloy of Copper, Zinc and Nickel contains 60% copper and 10% of Zinc. Another alloy of same quantity that contains Copper and Zinc is 13:12. In What ratio should the two alloys be mixed so that new mixture

contains 50% copper?

- a) 3:2
- b) 3:1
- c) 2:3
- d) 3:4
- e) 2:5

Correct Choice: a

Explanation:

$$\text{Quantity of Copper in First alloy} = \frac{60}{100} = \frac{3}{5}$$

$$\text{Quantity of Copper in Second alloy} = \frac{13}{13+12} = \frac{13}{25}$$

$$\text{And resultant Mixture contains Copper} = \frac{284}{500} = \frac{71}{125}$$

By Allegation Method,

Copper in first mixture	Copper in second mixture
$\frac{3}{5}$	$\frac{13}{25}$

$$\left(\frac{71}{125} - \frac{13}{25} = \frac{6}{125}\right) \quad \left(\frac{3}{5} - \frac{71}{125} = \frac{4}{125}\right)$$

Required ratio = 3:2



Topic - Quadratic Equation

11. In each of these questions, two equations (i) and (ii) are given. You have to solve both the equations and give answers.

(i) $x^2 - 3x - 40 = 0$

(ii) $y^2 + 11y + 30 = 0$

a) if $x > y$

b) if $x \geq y$

c) if $x = y$ or no relation can be established between x and y .

d) if $y > x$

Correct Choice: b

Explanation:

(i) $x^2 - 3x - 40 = 0$

$x^2 - 8x + 5x - 40 = 0$

$x(x - 8) + 5(x - 8) = 0$

$(x - 8)(x + 5) = 0$

$x = 8, -5$

(ii) $y^2 + 11y + 30 = 0$

$y^2 + 6y + 5y + 30 = 0$

$y(y + 6) + 5(y + 6) = 0$

$(y + 5)(y + 6) = 0$

$y = -6, -5$

$x \geq y$