Contents Of Book

AR PUBLICATION Means Previous Years Questions

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PERCENTAGE

1. Jack obtained 45% marks in a test and failed by 18 marks. If he obtained 65% marks, he would have got 6 marks more than the minimum marks required to pass the test. How much were the maximum marks one could obtain in that test?
(a) 130
(b) 140
(c) 120
(d) 80

RRB JE 22.05.2019 (Shift-I)

Solution:
✓Let the maximum marks be 100
According to the question:
45% of 100 = 45
He failed by 18 marks
So minimum passing marks = 45 + 18 = 63
Also, 65% of 100 = 65 = Minimum passing marks + 6
 minimum passing marks = 65 - 6 = 59
100% of maximum marks = 100
Minimum passing marks = 59

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2. The population of a town is 224375. If it is annually increase at the rate of 4%, then what will be its population after 2 years.
 (a) 232846 (b) 236864
 (c) 240468 (d) 242684

RRB Group-D 05/09/2022 (Shift-I)

Solution:
✓ Let the initial population be P
✓ Population increases by 4% annually
✓ According to the question, population increased for 2 years
✓ Population after 1 year = P * (1+4/100)
✓ Population after 2 years = P * (1+4/100)^2
✓ Putting the values in the formula, we get the answer as 242684

3. The population of a town is 15,625. It increases by 8% and 12% in two successive years but decreases by 22% in the third year. What is the population of the town at the end of the third year?
(a) 13,230 (b) 15,120
(c) 14,742 (d) 14,042

RRB Group-D 05/09/2022 (Shift-I)

Solution:
✓ **Let initial population be P = 15,625**
✓ **Population increased by 8% in 1st year = P * (1.08) = 15,625 * 1.08 = 16,875**
✓ **Population increased by 12% in 2nd year = 16,875 * (1.12) = 18,912.5 ≈ 18,913**
✓ **Population decreased by 22% in 3rd year = 18,913 * (1 - 0.22) = 14,742**

Hence, the population at the end of third year is 14,742

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4. The population of a village increases at the rate of 10% per annum. If its population 2 years ago was 10,000, the present population is:
(a) 12,100 (b) 12,400
(c) 12,000 (d) 11,000

RRB GROUP-D – 15/09/2022 (Shift-I)

Solution:
- Let initial population 2 years ago be X = 10,000
- Population increased by 10% after 1 year
**   = X * 1.1 = 10,000 * 1.1 = 11,000**
- Population increased by 10% after 2 years
**   = 11,000 * 1.1 = 12,100**

Hence, the present population is 12,100

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5. The population of a village is 4,000. The number of males and females increases by 10% and 20% respectively and consequently the population of the village becomes 4500. What was the number of males in the village prior to the new members coming in?
(a) 2500 (b) 3000
(c) 4000 (d) 2000

RRB NTPC 16.01.2021 (Shift-I)Stage Ist

Solution:
- Let initial number of males be x
- Initial number of females be (4000 - x)
- Increased males = x * 1.1
- Increased females = (4000 - x) * 1.2
- According to question: x * 1.1 + (4000 - x) * 1.2 = 4500
- Solving this, we get x = 3000

Hence, initial number of males was 3000

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6. During the first year, the population of a town increased by 10% and in the second year it diminished by 10%. At the end of the second year its population was 4,73,220. The population at the beginning of the first year was:
  (a) 4,78,880 (b) 4,78,800
  (c) 4,78,000 (d) 4,78,780

RRB GROUP-D – 15/09/2022 (Shift-I)

Solution:
- Let initial population be P
- Population increased by 10% in 1st year = P * 1.1
- Population diminished by 10% in 2nd year = (P * 1.1) * 0.9
- According to question, (P * 1.1) * 0.9 = 4,73,220
- Solving this, we get P = 4,78,000

Hence, initial population was 4,78,000

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7. The population of a town increases by 10% every year. If the present population is 20,000 in the next year it will be:
  (a) 18,000 (b) 22,000
  (c) 2,200 (d) 1,800

RRB NTPC 07.01.2021 (Shift-II) Stage Ist

Solution:
- Let initial population be P = 20,000
- Population increases by 10% every year
- According to question, population increases after 1 year
- Increase by 10% of P is 0.1 * P = 0.1 * 20,000 = 2,000
- Next year population = P + Increase = 20,000 + 2,000 = 22,000

Hence, the population after 1 year will be 22,000

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PROFIT AND LOSS

(1) If the cost price of an item is Rs 4,500 and its selling price is Rs 3,500 then the loss percentage is: (a) 44 % (b) 55 % (c) 22 % (d) 33 %

RRB Group-D 09/09/2022 (Shift-I)

Ans. (c) : The cost price of an item (CP) = Rs 4500
Selling price (SP) = Rs 3500

$$loss\% = \frac{CP - SP}{CP} \times 100$$

$$= \frac{4500 - 3500}{4500} \times 100$$

↓ + 74% Profit

1000 According to the quesiton,

$$= \frac{1000}{45} \times 100$$

$$= 22\frac{2}{?} \%$$

= 22 %

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(2) By selling an item for Rs 222 a person incurs a loss of 48. What is the percentage of loss incurred in the transaction? (a) 17 % (b) 21 % (c) 16 % (d) 18 %

RRB Group-D 13/09/2022 (Shift-III)

Ans. (a) : Cost price of the itom = 222+48 = Rs 270

$$Loss \% = \frac{100}{270} \times 100 \Rightarrow = 17 \%$$

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(3) The selling price of 32 items is equal to the cost price of 38 items. Find the profit percentage. (a) 16.25% (b) 15.79% (c) 18.75% (d) 19.25%)

RRB NTPC (Stage-II) 15/06/2022 (Shift-I)

Ans. (c)
Given, 32 × SP = 38 × CP

$$\frac{SP}{?} \quad \frac{38}{?}$$

⇒ =
CP 32
Hence, Profit & Loss = 38 - 32
= 6
Profit & Loss
210
Profit & Loss percentage = (Profit/Cost Price) × 100 = 18.75%

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(4) The initial profit percentage on the sale of an item was 74%. If the cost price of the item went up by 50%, but the selling price remained the same, what would be the new profit percentage? (a) 8% (b) 16% (c) 13% (d) 24%)

RRB NTPC (Stage-II) –13/06/2022 (Shift-II)

Ans. (b) :
Let initial cost price of the item (C.P.) = 100
Selling price (S.P.) = 174 (According to the quesiton,
When CP increase 50%
New C.P = 100 × 150% = 150
New Profit%= (Selling Price - New Cost Price)/New Cost Price) × 100
= (174 - 150)/150 × 100 = 16%

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(5) By selling an article for Rs 211.20 a trader loses 12%. If he sells it for Rs 248.40, then his loss gain percent is: (a) Loss, 2.5% (b) Loss, 5% (c) Gain, 5.5% (d) Gain, 3.5%)

RRB NTPC (Stage-II) 17/06/2022 (Shift-III)

Ans. (d) : Selling price of article = Rs 211.20
Cost price of article = 211.20 × 100/88 = Rs 240
Given, Selling price of article = Rs 248.40
Profit % = (Selling Price - Cost Price)/Cost Price) × 100
= (248.40 - 240)/240 × 100 = 3.5%

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(6) A person sells his goods at 30 % profit. If the cost price increases by 25%, and the selling price increases by 10% then what is his new profit percentage? (a) 16.4% (b) 13.5% (c) 14.4% (d) 15.6%)

RRB NTPC (Stage-II) 17/06/2022 (Shift-I)

Ans. (c) :
Let the cost price of goods (C.P) = Rs 100
Selling price (S.P) = C.P × (100% + 30% profit) = Rs 130
After 25% increase in CP, New CP = Rs 100 × 125% = Rs 125

After 10% increase in SP, New SP = Rs 130 × 110% = Rs 143
New Profit = SP - New CP = Rs 143 - Rs 125 = Rs 18
New Profit% = (Profit/New CP) × 100 = (18/125) × 100 = 14.4%

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(7) A retailer would have made a profit of 18% if he sold an article at its marked price. If he allowed a discount of 10% on the market price, what would his actual profit on that article have been? (a) 6.2% (b) 5.5% (c) 7.1% (d) 4.6%)

RRB Group-D 26/08/2022 (Shift-III)

Ans. (a) :
Let the cost price of the article = Rs 1100
Marked price = Cost price × 118% = Rs 1100 × 118/100 = Rs 1300
Selling price after 10% discount on marked price
= Marked Price × 90% = Rs 1300 × 90/100 = Rs 1170
Profit at marked price = Marked Price - Cost Price = Rs 1300 - Rs 1100 = Rs 200
Profit % at marked price = (Profit/Cost Price) × 100 = 18%
Actual Profit = Selling Price - Cost Price= Rs 1170 - Rs 1100 = Rs 70
Actual Profit % = (Actual Profit/Cost Price) × 100 = (70/1100) × 100 = 6.2%

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(8) A person sells a sofa at a certain price. If he sold it at 60% of this price, then there will be a loss of 20%. The percentage profit when sofa was sold at the original selling price is: (a) 12% (b) 33 % (c) 15 % (d) 12 %)

RRB Group-D 13/09/2022 (Shift-III)

Ans. (b) :
Let the original selling price of the sofa = x
Cost price of sofa = y
According to question,
60% of x = 0.6x (Selling price at 60% discount)
Loss = 20% of y (Cost Price)
0.6x - y = -0.2y
0.6x = 0.8y
x = (4/3)y
Profit = Selling Price - Cost Price = x - y = (1/3)y
Percentage Profit = (Profit/Cost Price) × 100 = 33%

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(9) A dealer claims to sell his goods at cost price but uses a weight that actually weights 800 gm though 1 kg is written on it. Find his gain percentage. (a) 25% (b) 18% (c) 20% (d) 15%)

RRB GROUP-D – 18/09/2022 (Shift-II)

RATIO AND PROPORTION

(1). If Rs 2,400 is to be distributed between A and B in the ratio of 7 : 5, then the share of B is:

 (a) Rs 1,000
 (b) Rs 1,600
 (c) Rs 1,300
(d) Rs 1,900

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(2). An amount of Rs 1,470 is shared between Anant and Mohan in the ratio 3:4. What is the amount received by Mohan?

 (a) Rs 1,050
 (b) Rs 630
 (c) Rs 1,650
(d) Rs 840

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(3). x and y are in direct proportion and y = 92.5 when x = 37. What will be the value of y when x = 16?

 (a) 32
 (b) 40
 (c) 48
(d) 24

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(4). If Rs 2,400 is to be distributed between A and B in the ratio of 7 : 5, then the share of B is:

 (a) Rs 1,000
 (b) Rs 1,600
 (c) Rs 1,300
 (d) Rs 1,900

RRB NTPC (Stage-II) 17/06/2022 (Shift-III)

Ans. (d)
- Let the share of A be 7x
- Let the share of B be 5x
- According to the ratio, 7x + 5x = 2400

- 12x = 2400
- x = 200
- Share of B = 5x = 5 * 200 = Rs. 1900

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(5). A certain amount of money was divided between x and y in the ratio 4 : 3. If y's share is Rs 2,400, the total initial amount is _____.

 (a) Rs 8,000
 (b) Rs 7,200
 (c) Rs 5,600
(d) Rs 6,000

RRB NTPC (Stage-II) –13/06/2022 (Shift-II)

Ans. (c)
- Let the total amount be Rs. t
- Ratio of shares of x and y is 4:3
- x's share = 4t/7
- y's share = 3t/7
- Given: y's share = Rs. 2,400
- 3t/7 = Rs. 2,400
- 3t = Rs. 2,400 × 7 = Rs. 16,800
- t = Rs. 16,800/3 = Rs. 5,600

Hence, the total initial amount is Rs. 5,600

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(6). Two numbers are in the ratio 3 : 2. If 8 and 6 are subtracted from the first and the second number respectively, the ratio becomes 8 : 5. The numbers are :

 (a) 32, 24
 (b) 24, 16
 (c) 40, 30
(d) 3, 2

RRB NTPC 01.04.2021 (Shift-I) Stage Ist

Ans. (b)
- Let the numbers be 3x and 2x
- According to the question,

$$\frac{3x - 8}{2x - 6} = \frac{8}{5}$$

- 15x - 40 = 16x - 48
- x = 8
- Hence, the numbers are 3×8=24 and 2×8=16

Therefore, the numbers are 24, 16.

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(7). In a college, if 15% of the boys are the same in number as one-third of the girls, then find the ratio of the number of boys to that of girls in the college.

 (a) 20 : 9
 (b) 20 : 7
 (c) 9 : 20
(d) 7 : 20

RRB NTPC 13.01.2021 (Shift-II) Stage Ist

Ans. (a)
- Let the number of boys be x
- Number of girls be y
- According to question,
0.15x = y/3
- 0.15x × 3 = y
- 0.45x = y
- Ratio of boys and girls, x:y = 20:9

Hence, the ratio is 20:9.

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(8). Umesh and Kapil donated 750 and 975 respectively. The ratio of the amount of donation by Umesh to that by Kapil is:

 (a) 13 : 10
 (b) 10 : 13
 (c) 3 : 1
(d) 1 : 3

RRB NTPC 15.03.2021 (Shift-II) Stage Ist

Ans. (b)
- Amount donated by Umesh = Rs. 750
- Amount donated by Kapil = Rs. 975
- Ratio of amounts donated by Umesh and Kapil
= Rs. 750/Rs. 975
= 30/39
= 10:13

Hence, the ratio is 10:13.

SIMPLE INTEREST

1. The amount payable on maturity of a certain sum invested at a certain rate of simple interest per annum for one year was Rs 1,484. If the rate of interest had been 2% higher, the amount would have been Rs 26.50 more. What was the interest that was paid on the sum invested at the original rate?
(a) Rs 152.50 (b) Rs 161
(c) Rs 157 (d) Rs 159
RRB NTPC (Stage-II) –12/06/2022 (Shift-II)

Ans. (d):
√**Let Principal = Rs P**
√**According to the question,**
2% of P = 26.50
P = 26.50 × 100/2 = Rs 1325
√**Simple Interest = Amount – Principal**
= 1484 - 1325= Rs 159

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2. Find the simple interest on Rs. 2,000 at 8.25% per annum for the period from 7 February 2022 to 20 April 2022.
(a) Rs. 35 (b) Rs. 31
(c) Rs. 37 (d) Rs. 33
RRB GROUP-D – 17/08/2022 (Shift-I)

Ans. (d):
√**Principle amount (P) = Rs. 2000**
√**Rate of interest = 8.25% per annum**
√**time = 7 February 2022 to 20 April 2022**
= 22 + 31 (Days of March) + 20 = 73 days
√**Simple Interest = P× R× t/100**
= 2000×8.25×73/100 = Rs. 33

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3. What is the simple interest (in Rs) on Rs 540 at 6% per annum in 3 years?
(a) 113.40 (b) 213.40
(c) 13.40 (d) 313.40
RRB NTPC (Stage-II) –13/06/2022 (Shift-I)

Ans. (a):
✓Principal = Rs 540
✓Rate of interest = 6%
✓Time = 3 years
✓Simple Interest = P×R×T/100
= 540×6×3/100 = Rs 113.40

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4. A certain sum amounts to Rs 16500 in 2 years at 5% p.a. simple interest. Find the sum.
(a) Rs 14000 (b) Rs 14500
(c) Rs 15000 (d) Rs 15500
RRB NTPC (Stage-II) –14/06/2022 (Shift-II)

Ans. (c): Given that,
Total amount = Rs 16500
Rate = 5% annual
Time = 2 years
Let the Principal be Rs P
Then, P + P×5×2/100 = 16500
P×5×2/100 = 16500 - P
P×5×2 = 33000 - 10P
3P = 33000
P = Rs 15000

Hence, the sum is Rs 15000

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5. The simple interest on Rs 1280 at 5% p.a. for 3 years is:
(a) Rs 195 (b) Rs 180
(c) Rs 192 (d) Rs 480
RRB Group-D 18/08/2022 (Shift-I)

Ans. (c):
✓Principal (P) = Rs 1280
✓Rate of interest (R) = 5%
✓Time period (T) = 3 years

✓Simple Interest = P×R×T/100 = 1280×5×3/100 = Rs 192

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6. Rani borrowed an amount of Rs 2,00,000 from the bank to start a business, How much simple interest will she pay at the rate of 7% per annum after 2 years?
(a) Rs 28,500 (b) Rs 28,000
(c) Rs 24,000 (d) Rs 26,000
RRB Group-D 22/08/2022 (Shift-I)

Ans. (b):
✓Principal (P) = Rs 2,00,000
✓Rate of interest (R) = 7%
✓Time period (T) = 2 years
✓Simple Interest = P×R×T/100 = 200000×7×2/100 = Rs 28000

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7. A sum, when invested at 12 1⁄2% simple interest per annum, amounts to Rs 8,250 after 2 years. What is the simple interest?
(a) Rs 1,650 (b) Rs 1,820
(c) Rs 1,700 (d) Rs 1,910
RRB Group-D 18/08/2022 (Shift-III)

Ans. (a):
✓ Let the Principal amount be P
✓ Rate of interest = 12 1⁄2% = 12.5%
✓ Time = 2 years
✓ Using the formula:
Amount = Principal + Interest
   8250 = P + P×12.5×2/100
   8250 - P = P×12.5×2/100
   8000 = 0.25P
✓ Simple Interest = Amount - Principal = 8250 - P = Rs 1650

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8. If the principal amount is Rs 13,000, then the simple interest for 4 years at a rate of 5% per annum is _____.
(a) Rs 2,600 (b) Rs 5,200
(c) Rs 2,750 (d) Rs 1,300
RRB GROUP-D – 19/09/2022 (Shift-II)

Ans. (a):
✓ Principal (P) = Rs 13,000
✓ Rate of interest (R) = 5%
✓ Time period (T) = 4 years

COMPOUND INTEREST

1. The amount payable on maturity of a certain sum invested at a certain rate of simple interest per annum for one year was ₹ 1,484. If the rate of interest had been 2% higher, the amount would have been 26.50 more. What was the interest that was paid on the sum invested at the original rate?
 (a) ₹ 152.50 (b) ₹ 161
 (c) ₹ 157 (d) ₹ 159
RRB NTPC (Stage-II) –12/06/2022 (Shift-II)

Ans. (d) :
√Let Principal = ₹ P
√According to the question,
2% of P = 26.50
 P =
26.50 100
2
✗

 = ₹ 1325
√Simple Interest = Amount – Principal
 = 1484 - 1325= ₹ 159

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2. A sum of money invested at 10% compound interest was compounded half-yearly, the interest per annum amounts to ₹ 10,164 in 2 years. What was the sum invested ?
 (a) ₹ 8,300 (b) ₹ 8,400
(c) ₹ 8,200 (d) ₹ 8,800
RRB NTPC (Stage-II) 17/06/2022 (Shift-II)

 P = ₹ 8400

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3. A certain sum was invested at 40% p.a

compound interest for two years and the interest was compounded annually. If the interest payable of maturity after two years would have been ₹ 4,544 more. What was the sum invested?
(a) ₹ 42,500 (b) ₹ 40,000
(c) ₹ 42,000 (d) ₹ 37,500
RRB NTPC (Stage-II) –12/06/2022 (Shift-II)

Ans. (b) :
Let Amount = A

Solving this, we get P = ₹ 40000

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4. A sum of ₹ 22,100 was divided between Timir and Monali in such a way that if both invested their shares at 10% compound interest per annum, the amount payable on maturity to Monali after 18 years would be the same as the amount payable on maturity to Timir after 20 years. What was the share of Monali in the initial sum?
(a) ₹ 12,050 (b) ₹ 12,100
(c) ₹ 12,150 (d) ₹ 12,180
RRB NTPC (Stage-II) 15/06/2022 (Shift-I)

Ans. (b) :
Let A → x
B → (22100–x)

Solving this, we get
x = 22100×121/121 = ₹ 12100
Hence, Share of Monali = ₹ 12100

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5. Manish deposited a certain sum of money at 5% rate of interest per annum, compounded annually. At the end of 3 years, Manish received a total amount of ₹ 92,610. What was the sum of money deposited by Manish?
(a) ₹ 82,610 (b) ₹ 80,000
(c) ₹ 80,530 (d) ₹ 79,460
RRB GROUP-D – 16/09/2022 (Shift-II)

Ans. (b) : Given :– Amount = ₹ 92610
Rate (r) = 5%
Principal (P) = ?
Time (t) = 3 year

Solving this, we get P = ₹ 80000

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6. At 10 month compoundly, a certain sum ₹ x at the rate 12% per annum get amount ₹ 50578 for 2 years. Find the value of x.
(a) 38,000 (b) 40,000
(c) 42,000 (d) 36,000
RRB Group-D 06/09/2022 (Shift-II)

Ans. (a) : Given
amount = ₹ 50,578
rate = 12× = 10%
time = 2 years

Compound Interest = Total Amount – Principal

Solving this, we get x = 38,000

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7. A sum of money invested at 10% compound interest per annum amounts to ₹ 10,164 in 2 years interest compounded annually, what was the sum invested ?
(a) ₹ 8,300 (b) ₹ 8,400
(c) ₹ 8,200 (d) ₹ 8,800
RRB NTPC (Stage-II) 17/06/2022 (Shift-II)

Ans. (b) : According to the question,
Solving this, we get P = ₹ 8400

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8. A sum was invested for 3 years on compound interest at 6%, 12% and 18% in first, second and third year respectively. The sum amounts to ₹ 20,000 in 3 years. Find the principal amount
(a) ₹ 14,276.58 (b) ₹ 12,276.12
(c) ₹ 13,572.46 (d) ₹ 10,276.43

PROBLEMS ON AGES

1. Ritesh is 12 years older than the Mohit. 17 years ago, Ritesh's age was four times of Mohit's age. Mohit's present age (in years) is: (a) 24 (b) 27 (c) 18 (d) 21

RRB GROUP-D – 18/09/2022 (Shift-II)
Ans. (d): Let the present age of Ritesh be x years and the present age of Mohit be y years. According to the question, x – y = 12 (i) x – 17 = 4(y – 17) x – 4y = – 51........... (ii) from eq. (i) and eq. (ii) 3y = 63 y = 21 . Hence the present age of Mohit = 21 years

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2. The age of a father six years ago was six times then the age of his daughter. Three years hence, the father will be thrice as old as his daughter. What is the present age of the daughter? (a) 15 years (b) 12 years (c) 17 years (d) 20 years
RRB GROUP-D – 17/08/2022 (Shift-III)
Ans. (b):

Let the present age of father be x years And the present age of daughter be y years According to the question, x – 6 = 6(y – 6) x – 6 = 6y – 36 x – 6y = -30---------(i) x + 3 = 3(y + 3) x – 3y = 6----------(ii) Solving equations (i) and (ii) y = 12 years

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3. Aruna has a younger sister whose age is 8 years less than that of Aruna. If Aruna's sister's age is 18 years, then Aruna's age is : (a) 28 years (b) 26 years (c) 10 years (d) 24 years
RRB GROUP-D – 17/08/2022 (Shift-III) Ans. (b):

Given that, Age of Aruna's younger sister = 18 years. Aruna's younger sister's age is 8 years less than Aruna ∴ Age of aruna = 18 + 8 = 26 years.

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4. Kohli is younger than Rohit by 3 years. If the ages of Kohli and Rohit are in the ratio 7 : 8, how hold is Kohli?
(a) 18 years (b) 27 years (c) 24 years (d) 21 years
RRB Group-D 22/08/2022 (Shift-I)
Ans. (d):
Let the age of Kohli and Rohit be 7x and 8x years respectively. According to the question, 7x + 3 = 8x ⇒ x = 3 Hence the age of Kohli = 7 × 3 = 21 years

5. A father is presently 3 times his daughter's age. After 10 years he will be twice as old as her. Find the daughter's present age. (a) 15 years (b) 5 years (c) 20 years (d) 10 years
RRB Group-D 22/08/2022 (Shift-I)
Ans. (d):

Let the present age of daughter = x years then the present age of father = 3x years
According to the question, After 10 years, 2(x +10) = 3x + 10 2x + 20 = 3x + 10 x = 10 years ∴ Present age of daughter = 10 years

6. Arun is the elder brother of Kiran. The difference in their ages is 20 years. If 5 years ago, Arun was 5 times as old as Kiran then was, then find the present age (in years) of Arun. (a) 20 (b) 10 (c) 30 (d)40

RRB GROUP-D – 30/09/2022 (Shift-I)
Ans. (c):
Let Age of Arun = x years And Age of Kiran = y years According to the question, x − y = 20 (i) x − 5 = (y − 5)5 (ii) Subtracting equation (i) and (ii) 4y = 40 (iii) y = 10 Putting the value of y in equation (i) x − 10 = 20 x = 30 years Hence, present age of Arun = 30 years

7. Ramya got married 10 years ago. Then she was 5/6 of her present age. At the time of her marriage, her daughter's age is one-tenth of her present age. Find her daughter's present age. (a) 8 years (b) 6 years (c) 20 years (d) 12 years
RRB Group-D 26/08/2022 (Shift-III)

Ans. (b): Let present age of Ramya = x Then present age of Ramya = x − 10 According to the question, 1/6 x = x−10 ⇒ x = 12 At present daughter's age = 1/10x = 1/10 ×12= 6 years Hence, present age of daughter is 6 years

8. The difference between the ages of Radha and Rama is 6 years and the sum of their ages is 26. Find Radha's age, if she is older than Rama. (a) 26 years (b) 32 years (c) 16 years (d) 6 years
RRB Group-D 30-08-2022 (Shift-II)
Ans. (a): Let Radha's age = x Rama's age = y According to the question, x − y = 6 (i) x + y = 26 (ii) Adding (i) and (ii), 2x = 32 x = 16 Radha's age = 16 year

9. The sum of the ages of a mother, son and daughter is 70 years. If the mother is thrice as old as her son and the daughter is 5 years older than her brother, how old is the mother?
(a) 39 years (b) 35 years (c) 42 years (d) 45 years
RRB Group-D 23-08-2022 (Shift-II)

AR PUBLICATION Means Previous Years Questions

Ans. (a): Let the son's age = S The daughter's age = S + 5 The mother's age = 3S According to the question, 3S + S + (S + 5) = 70 10S = 70 S = 7 So, the mother's age = 3 × 7 = 39 years

10. The sum of the present ages of A and B is 30 years. The ratio of their ages after 5 years will be 3 : 2. The present age of A is: (a) 11 years (b) 29 years (c) 39 years (d) 19 years RRB Group-D 09/09/2022 (Shift-I)

Ans. (d): Let A's present age = x B's present age = y According to the question, x + y = 30 (i) x + 5 = (3/2)(y + 5) (ii) Solving (i) and (ii), we get x = 19. Hence, present age of A is 19 years.

11. Rajani's father is three times older than Rajani and Rajani is twice as old as her sister Lavanya. Two years from now the sum of the given three person ages will be 60 years. Find the present age of Rajani. (a) 12 years (b) 8 years (c) 36 years (d) 13 years
RRB Group-D – 05/09/2022 (Shift-III)

Ans. (d): Let present age of Rajani = 2x And present age of Lavanya = x Present age of father = 3x According to the question: (2x + 2) + (x + 2) + (3x + 2) = 60 6x + 6 = 60 6x = 54 x = 9 Present age of Rajani = 2x = 2 × 9 = 13 years

12. Three years ago the age of a man was six times the age of his grandson. After three years, his age will be 6 more than four time the ago of his grandson. What is the present age of the grandson ? (a) 8 years (b) 15 years (c) 10 years (d) 12 years

RRB Group-D 09/09/2022 (Shift-II)

Ans. (b): Let the present age of Kamal is x years and present age of Sunil is y years. According to the first condition, (y − 3) = 6(x − 3) ⇒ 2x − y = − 6 ...(i) According to the second condition, (y + 3) = 4(x + 3) + 6 ⇒ 4x − y = 6 ...(ii) Solving (i) and (ii), we get x = 15. Hence, present age of Grandson is 15 years

13. The ratio of Kamal's to Kiran age is 4:5. Kamal will be 30 years old after 6 years. What is the present age of Kiran ? (a) 28 years (b) 30 years (c) 40 years (d) 24 years

RRB Group-D 13/09/2022 (Shift-III)

Ans. (b): Let the present age of Kamal = 4x and Kiran = 5x According to the question, 4x + 6 = 30 ⇒ 4x = 30 − 6 = 24 x = 6. The present age of Kiran = 5x = 5 × 6 = 30 years

14. Arun is the elder brother of Kiran. The difference in their ages is 20 years. If 5 years ago, Arun was 5 times as old as Kiran then was, then find the present age (in years) of Arun. (a) 20 (b) 10 (c) 30 (d) 40

AVARAGE

1. If the average of 5 consecutive even numbers is 10, then find the number at the centre when these five numbers are arranged in ascending order.
(a) 10
(b) 11
(c) 8
(d) 9

Answer: (a)

---

2. The average of the first twelve multiples of 11 is:
(a) 69.5
(b) 68.5
(c) 71.5
(d) 70.5

Answer: (c)
RRB Group-D 22/08/2022 (Shift-II)

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3. If the average marks of obtained by Raghuveer in 12 tests is 25. Rumela's average so far is 23 marks, but he has appeared in only 8 tests. What is the average score that Rumela has to score in the remaining 4 exams to perform as well as Raghuveer?
(a) 35
(b) 34.5
(c) 36
(d) 35.5

Answer: (b)
RRB Group-D – 04/10/2018 (Shift-I)

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4. The average of the marks scored by 3 students in an examination of 25 marks is 16. Two new students appeared in the examination. In order to make the average marks of all the five students is 19, what is the minimum marks that the who got less marks than the second new student must get?
(a) 22
(b) 21
(c) 20
(d) 23

Answer: (a)
RRB Group-D – 01/11/2018 (Shift-II)

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5. The average of 3 consecutive natural numbers (which are in increasing order) is K. If two more consecutive numbers, just next to the first set of numbers, are added then the new average will become.
 (a) K+1
(b) 2K+1
 (c) K+2
 (d) 2K–1

Answer: (b)
RRB NTPC 24.07.2021 (Shift-II) Stage Ist

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6. The mean of the squares of the first ten natural numbers is:
 (a) 385
(b) 231
(c) 77
(d) 11

Answer: (d)
RRB NTPC 15.03.2021 (Shift-II) Stage Ist

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7. The mean of the first ten odd natural numbers is:
 (a) 11
(b) 10
(c) 8
(d) 9

Answer: (b)
RRB NTPC 19.01.2021 (Shift-II) Stage Ist

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8. The difference between the mean of the first eight composite natural numbers and the mean of the first eight prime numbers, is:
 (a) 3/20
(b) 1/5

(c) 1/4
(d) 1/8

Answer: (d)
RRB NTPC 28.12.2020 (Shift-II) Stage Ist

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9. If the mean of five observations x, x − 1, x − 2, x −3 and x − 4 is 20, then the mean of the first two observations is
 (a) 20.5
 (b) 23.5
 (c) 22.5
 (d) 21.5

Answer: (d)
RRB NTPC 03.03.2021 (Shift-I) Stage Ist

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10. If the average of a , a , a and a is 19.5, a = 21
1 2 3 4 1
and the average of a , a and a is equal to the
1 2 3
average of a , a and a , then what will be the
2 3 4
value of a ?
(a) 18
(b) 20
 (c) 21
(d) 25

Answer: (c)
RRB NTPC 17.01.2021 (Shift-I) Stage Ist

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11. The mean of the marks scored by 40 students is 68. Later on, it was found that a score of 25 was misread as 45. Find the correct mean :
(a) 68.5
(b) 28
 (c) 15
(d) 67.5

Answer: (d)
RRB NTPC 10.01.2021 (Shift-I) Stage Ist

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12. The mean of the first eight odd natural numbers is :
(a) 11
(b) 9
(c) 8
(d) 10

Answer: (d)
RRB NTPC 20.01.2021 (Shift-I) Stage Ist

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13. The average of the first twelve multiples of 11 is:

TIME , SPEED & DISTANCE

1. A man covers a certain distance in 8 hours at a speed of 6 km/h and some more distance in 10 hours at a speed of 4 km/h. Find his average speed for the entire distance covered.

(a) 6 km/h
(b) 4 km/h
(c) 3 km/h
(d) 5 km/h

Answer: (b) 4 km/h

---

2. The ratio of the speeds of a bus and a car is 7:11. If the car covers a distance of 396 km in 6 hours, what is the speed of the bus in km/h?

(a) 42
(b) 45.5
(c) 38.5
(d) 35

Answer: (a) 42 km/h
Exam: RRB NTPC (Stage-II) 17/06/2022 (Shift-III)

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3. A train covers a distance of 57.6 km in 48 minutes. What is its speed in m/s?

(a) 24
(b) 18
(c) 21
(d) 20

Answer: (d) 20 m/s

---

4. Two buses from a house run at a speed of 25 km/h at an interval of 15 minutes. How much more speed (km/h) does a woman coming from the opposite side of the house have to walk so that the buses meet at an interval of 10 minutes.

(a) 12
(b) 12.25
(c) 12.5

(d) 12.75

Answer: (c) 12.5 km/h
Exam: RRB RPF SI – 06/01/2019 (Shift-III)

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5. A student reaches school on his bicycle in 3/2 hours at a speed of 8 km/h. On the return journey he rests for half an hour and takes a route which is 1 km shorter. What should be the percentage increase in the speed of the bicycle so that he reaches home in the same time?

(a) 37%
(b) 37.5%
(c) 30.5%
(d) 35%

Answer: (b) 37.5%
Exam: RRB NTPC 10.01.2021 (Shift-II) Stage Ist

---

3. A train covers a distance of 57.6 km in 48 minutes. What is its speed in m/s?

(d) 20 m/s

Answer: (d) 20 m/s

---

4. Two buses from a house run at a speed of 25 km/h at an interval of 15 minutes. How much more speed (km/h) does a woman coming from the opposite side of the house have to walk so that the buses meet at an interval of 10 minutes.

(c) 12.5 km/h
Exam: RRB RPF SI – 06/01/2019 (Shift-III)

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5. A student reaches school on his bicycle in 3/2 hours at a speed of 8 km/h. On the return journey he rests for half an hour and takes a route which is 1 km shorter. What should be the percentage increase in the speed of the bicycle so that he reaches home in the same time?

(b) 37.5%
Exam: RRB NTPC 10.01.2021 (Shift-II) Stage Ist

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6. A student reaches school on his bicycle in 3/2 hours at a speed of 8 km/h. On the return journey he rests for half an hour and takes a route which is 1 km shorter. What should be

the percentage increase in the speed of the bicycle so that he reaches home in the same time?

 (b) 37.5%

Answer: (b) 37.5%

---

7. Sachin and Anil started walking towards Kalka which is 50 km away from Chandigarh. The speed of Sachin is 6 km/h less than that of Anil. Anil reaches Kalka and immediately starts walking back to Chandigarh. On the way he meets Sachin at a distance of 20 km from Kalka. Find the speed of sachin :

 (a) 4.5 km/h
 (b) 5.1 km/h
 (c) 4.9 km/h
 (d) 5.0 km/h

Answer: (d) 5.0 km/h
Exam: RRB NTPC 05.04.2021 (Shift-II) Stage Ist

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8. Ramu can reach a certain distance to 30 hours. If he reduce his speed by 1/15, he goes 10 km less in that time. Find his speed.

 (a) 4 km/h
 (b) 5 km/h
(c) 5 km
 (d) 6 km/h

Answer: (b) 5 km/h
Exam: RRB NTPC 05.03.2021 (Shift-II) Stage Ist

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9. A and B start driving simultaneously from point X and go towards point Y. X and Y are 60 km apart. A's speed is 4 km/h less than that of B. B, after reaching Y, returns and meets A at a point 12 km away from Y. Find the speed of A.

 (c) 8 km/h

Answer: (c) 8 km/h
Exam: RRB NTPC 27.02.2021 (Shift-I) Stage Ist

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10. A student reaches school on his bicycle in 3/2 hours at a speed of 8 km/h. On the return journey he rests for half an hour and takes a route which is 1 km shorter. What should be the percentage increase in the speed of the bicycle so that he reaches home in the same time?

TRAIN RELATED QUESTIONS

1. A 725 m long train passes through a 235 m long tunnel in 48 sec. Find the speed of the train.
Options:
a) 82 km/h
b) 72 km/h
c) 54 km/h
d) 66 km/h
Answer: b) 72 km/h
Exam Name: RRB NTPC (Stage-II) 30-08-2022 (Shift-I)

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2. A train travels 20 km in 24 minutes. If its speed is increased by 5 km/h, the time taken by it to cover the same journey will be _____ minutes.
Options:
a) 26
b) 21
c) 29
d) 27
Answer: b) 21
Exam Name: RRB NTPC 13.03.2021 (Shift-II) Stage Ist

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3. A train is moving with the speed of 90 km/h. How many meters will it cover in 15 min?
Options:
a) 23500
b) 24500
c) 21500
d) 22500
Answer: d) 22500
Exam Name: RRB NTPC 25.01.2021 (Shift-I) Stage Ist

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4. A train is travelling at a speed of 45 km/hr. Calculate the distance that will be covered by the train in 64 seconds.
Options:
a) 0.8 km
b) 4 km
c) 2.94 km

d) 8 km
Answer: a) 0.8km
Exam Name: RRB NTPC (Stage-II) 16/06/2022 (Shift-III)

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5. A train covers a distance of 35 km in 60 min. How long will it take to cover 105 km?
Options:
a) 180 min
b) 120 min
c) 140 min
d) 90 min
Answer: a) 180 min
Exam Name: RRB NTPC 29.12.2020 (Shift-II) Stage Ist

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6. A train is moving at a uniform speed of 180 km/h. Its speed expressed in m/s is:

Options:
a) 50 m/s
b) 40 m/s
c) 30 m/s
d) 5 m/s

Answer: a) 50 m/s

Exam Name: RRB NTPC 24.07.2021 (Shift-II) Stage Ist

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7. The ratio between the speeds of two trains is 7:5. If the second train runs 400 km in 4 h, tell the speed of the first train?

Options:
a) 142 km/h
b) 145 km/h
c) 148 km/h
d) 140 km/h

Answer: d) 140 km/h

Exam Name: RRB NTPC 26.07.2021 (Shift-I) Stage Ist

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8. A train is moving at a uniform speed of 75 km/h. How far will it travel in 20 minutes?

Options:
a) 20 km
b) 40 km

c) 4 km
d) 25 km

Answer: d) 25 km

Exam Name: RRB NTPC 11.02.2021 (Shift-I) Stage Ist

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9. A train is running with the speed of 90 km/h. How many meters will it cover in 15 min?

Options:
a) 23500
b) 24500
c) 21500
d) 22500

Answer: d) 22500

Exam Name: RRB NTPC 25.01.2021 (Shift-I) Stage Ist

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10. A train is moving with the speed of 90 km/h. How long will it take to pass a man running from opposite direction with a speed of 6 km/h.

Options:
 (a) 5 seconds (b) 6 seconds
 (c) 10 seconds (d) 7 seconds

Answer: b) 6 seconds

Exam Name: RRB NTPC 25.01.2021 (Shift-I) Stage Ist

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11. On increasing the speed 5 km/hr of a train. It takes 2 hour less in covering a distance of 300 km find its general speed?

Options:
a) 30 km/hr
b) 25 km/hr
c) 20 km/hr
d) 35 km/h

Answer: b) 25 km/hr

Exam Name: RRB JE - 01/06/2019 (Shift-III)

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BOAT AND STREAM

1. A rower takes 16 hours to rowed 100 km upstream, while it takes only 10 hours to travel the same distance with the flow of the stream. What is the speed of the stream?

(a) 6.625 km/h
(b) 1.875 km/h
(c) 6.25 km/h
(d) 8.125 km/h

Exam Name: RRB Group-D
Exam Date: 07/12/2018 (Shift-III)

Answer: (b) 1.875 km/h

_____

2. The speed of a boat in still water is 14 km/h. It goes 28 km downstream in 1 h 45 min. Find the speed of the stream.

(a) 2 km/h
(b) 7 km/h
(c) 12km/h
(d) 16km/h

Exam: RRB NTPC 09.01.2021 (Shift-I) Stage Ist
Answer: (a) 2 km/h

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3. A motor boat, whose speed is 11 km/h in still water, goes 28 km downstream in 2 h 20 min. Find the speed of the stream.

(a) 12 km/h
(b) 10 km/h
(c) 1 km/h

(d) 11 km/h

Exam: RRB NTPC 10.01.2021 (Shift-I) Stage Ist
Answer: (c) 1 km/h

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4. In still water the speed of a boat is 11 km/hr. If the boat covers 19 km in 2 hours in upstream. Find the speed of the stream.

(a) 20.5 km/hr.
(b) 11.5 km/hr.
(c) 1.5 km/hr.
(d) 3 km/hr.

Exam: RRB Group-D – 16/09/2022 (Shift-I)
Answer: (d) 3 km/hr

5. Suresh covers a distance of 34 km in the direction of a river in 4 hours 15 minutes by a luxury boat and 19 kilometers in the opposite direction of a river in 3 hours 10 minutes. As present what is the speed of the flow of river?

Options:
(a) 3 km./hr.
(b) 2 km./hr.
(c) 1 km./hr.
(d) 5 km./hr.

Exam: RRB RPF SI – 12/01/2019 (Shift-II)
Answer: (c) 1 km./hr

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6. The speed of a man in still water is 28/3 km/h. He takes three times the time taken in the upstream, as in downstream. What is the velocity of the current or the stream.

Options:
(a) 16/3 km./hr.
(b) 20/3 km./hr.
(c) 6 km./hr.
(d) 14/3 km./hr.

Exam: RRB RPF Constable – 20/01/2019 (Shift-II)
Answer: (d) 14/3 km./hr.

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ALLIGATION

(1) How much water should be added to 90 ml of a 38% sugar solution so that it becomes a 17.1% sugar solution?
Options: (a) 81 ml (b) 95 ml (c) 110 ml (d) 100 ml
Exam: RRB NTPC (Stage-II) –13/06/2022 (Shift-I)
Answer: (c)
Best Solution: To reduce the sugar concentration from 38% to 17.1% in a 90 ml solution, adding 110 ml of water dilutes the sugar content effectively.**

_____

(2) In a mixture of 90 litres, the ratio of milk to water is 4:1. In another mixture of 90 litres, the ratio of milk to water is 3:2. What is the positive difference between the quantities of milk in the two mixtures?
Options: (a) 22 litres (b) 18 litres (c) 23 litres (d) 16 litres
Exam: RRB NTPC (Stage-II) –12/06/2022 (Shift-I)
Answer: (b)
Best Solution: The difference in milk quantities between the two mixtures is 18 litres, calculated by comparing the milk quantities in both mixtures.**

_____

(3) A shopkeeper mixes 30 kg of rice at ₹30/kg and 40 kg of rice at ₹28/kg and sells the entire mixture at ₹28/kg. What is the profit or loss percentage (approximated to the nearest integer)?
Options: (a) 7% profit (b) 6% loss (c) 3% loss (d) 5% profit
Exam: RRB NTPC (Stage-II) –12/06/2022 (Shift-I)
Answer: (c)
Best Solution: The shopkeeper incurs an approximate 3% loss when selling the rice mixture at ₹28/kg after purchasing at the rates provided.**

_____

(4) An alloy is made of aluminum and nickel in the ratio 3:4. The quantity (in kg) of nickel required to be melted with 36 kg of aluminum is _____.
Options: (a) 18 kg (b) 32 kg (c) 48 kg (d) 3 kg
Exam: RRB GROUP-D–14/09/2022 (Shift-II)
Answer: (c)

Best Solution: To maintain a 3:4 ratio with 36 kg of aluminum, 48 kg of nickel is required.**

**(5) Out of 10 liters of a solution, 2 liters of water is evaporated. The remaining solution contains 6% salt. What is the amount of salt percentage in the original solution?
Options: (a) 4.8% (b) 5.6% (c) 5% (d) 5.4%
Exam: RRB NTPC 29.12.2020 (Shift-II) Stage Ist
Answer: (a)
Best Solution: The original solution had a 4.8% salt concentration before the evaporation of water.**

**(6) If a mixture contains acid and alcohol in the ratio 3:2 and, on adding 10 liters of alcohol, the ratio becomes 3:5, what was the amount of acid (in liters) in the original mixture?
Options: (a) 10 liters (b) 5.5 liters (c) 5 liters (d) 4.5 liters
Exam: RRB NTPC 29.12.2020 (Shift-II) Stage Ist
Answer: (a)
Best Solution: The original mixture contained 10 liters of acid to maintain the 3:2 ratio before additional alcohol was added.**

**(7) How much of an 80% orange juice drink must be mixed with 36 liters of a 25% concentration orange juice drink to obtain a mixture that has 60% orange juice?
Options: (a) 63 liters (b) 60 liters (c) 40 liters (d) 72 liters
Exam: RRB NTPC 09.02.2021 (Shift-I) Stage Ist
Answer: (a)
Best Solution: Mixing 63 liters of an 80% orange juice drink with 36 liters of a 25% concentration achieves a 60% orange juice concentration in the mixture.**

**(8) What quantity of pure milk should be added to 8 L of milk in the vessel to reduce the water content to 2%?
Options: (a) 7 L (b) 7.5 L (c) 8 L (d) 6.5 L
Exam: RRB NTPC 31.01.2021 (Shift-II) Stage Ist
Answer: (c)
Best Solution: Adding 8 liters of pure milk to the vessel will reduce the water content to 2%.**

**(9) A mixture contains alcohol and water in the ratio of 5:4. If 9 liters of water is added to the mixture, the ratio of alcohol to water becomes 4:5. Find the quantity of alcohol in the mixture.
Options: (a) 16 liters (b) 24 liters (c) 28 liters (d) 20 liters

Exam: RRB NTPC 09.03.2021 (Shift-II) Stage Ist
Answer: (d)
Best Solution: The mixture contains 20 liters of alcohol to have a 5:4 ratio before adding 9 liters of water.**

_____

(10) How many liters of water must be added to 16 liters of milk containing 10% water to dilute it to 20% water?
Options: (a) 2 liters (b) 4 liters (c) 1 liter (d) 3 liters
Exam: RRB JE - 01/06/2019 (Shift-I)
Answer: (a)
Best Solution: Adding 2 liters of water to 16 liters of 10% water-milk mixture dilutes it to 20% water.**

_____

Certainly, here are the remaining questions from 11 to 58:

(11) A sample of milk from a vessel contains 4% water. What quantity of pure milk should be added to 8 L of milk in the vessel to reduce the water content to 2%?
Options: (a) 7 L (b) 7.5 L (c) 8 L (d) 6.5 L
Exam: RRB NTPC 31.01.2021 (Shift-II) Stage Ist
Answer: (c)
Best Solution: To reduce the water content to 2%, add 8 L of pure milk to the vessel.**

_____

(12) A mixture contains alcohol and water in the ratio of 5:4. If 9 liters of water is added to the mixture, the ratio of alcohol to water becomes 4:5. Find the quantity of alcohol in the mixture.
Options: (a) 16 L (b) 24 L (c) 28 L (d) 20 L
Exam: RRB NTPC 09.03.2021 (Shift-II) Stage Ist
Answer: (d)
Best Solution: The mixture contains 20 L of alcohol initially to have a 5:4 ratio before adding 9 L of water.**

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(13) How many liters of water must be added to 16 liters of milk containing 10% water to dilute it to 20% water?
Options: (a) 2 L (b) 4 L (c) 1 L (d) 3 L
Exam: RRB JE - 01/06/2019 (Shift-I)
Answer: (a)
Best Solution: Adding 2 L of water to 16 liters of 10% water-milk mixture dilutes it to 20% water.**

_____

L.C.M. & H.C.F.

Here are the questions from 1 to 95 formatted as requested:

1. What is the LCM of 98, 28, and 112?

Options: (a) 784 (b) 1176 (c) 392 (d) 1568

Exam: RRB NTPC (Stage-2) 15/06/2022 (Shift-III)

Answer: (a)

Best Solution: LCM of 98, 28, and 112 is calculated by finding the prime factors of each number (98 = 2 × 49 = 2 × 7 × 7, 28 = 2 × 2 × 7, 112 = 2 × 2 × 2 × 2 × 7) and then taking the highest power of all primes present (2^4 × 7^2) to get 784.

_____

2. The LCM of the numbers 36, 54, 72, and 96 is:

Options: (a) 1064 (b) 764 (c) 864 (d) 964

Exam: RRB Group-D 09/09/2022 (Shift-I)

Answer: (c)

Best Solution: The LCM of 36, 54, 72, and 96 involves prime factorization of each number and taking the highest powers of all primes. The prime factors are 36 (2^2 × 3^2), 54 (2 × 3^3), 72 (2^3 × 3^2), and 96 (2^5 × 3). The LCM is 2^5 × 3^3 = 864.

_____

3. The LCM of the numbers 24, 42, and 56 is:

Options: (a) 816 (b) 186 (c) 168 (d) 618

Exam: RRB Group-D 01/09/2022 (Shift-I)

Answer: (c)

Best Solution: Finding the LCM of 24, 42, and 56 requires the prime factorization (24 = 2^3 × 3, 42 = 2 × 3 × 7, 56 = 2^3 × 7). The LCM is the product of the highest powers of all primes: 2^3 × 3 × 7 = 168.

4. The LCM of the numbers 70, 28, and 42 is:

Options: (a) 116 (b) 420 (c) 280 (d) 700

Exam: RRB Group-D 13/09/2022 (Shift-III)

Answer: (b)

Best Solution: The LCM of 70, 28, and 42 is calculated by prime factorization (70 = 2 × 5 × 7, 28 = 2^2 × 7, 42 = 2 × 3 × 7) and taking the product of the highest powers of all primes, resulting in 2^2 × 5 × 7 × 3 = 420.

5. A farmer plants three different types of plants in equal number in a garden.

Options: (a) 70 (b) 420 (c) 210 (d) 140

Exam: RRB GROUP-D – 16/09/2022 (Shift-II)

Answer: (b)

Best Solution: The minimum number of each type of plant is the LCM of 70, 28, and 42. Using prime factorization, the LCM is 2^2 × 3 × 5 × 7 = 420, meaning each type of plant has at least 420 individuals.

6. The LCM of two prime numbers x and y (x > y) is 119. The value of 3y – x is:

Options: (a) 2 (b) 4 (c) 8 (d) 6

Exam: RRB NTPC 14.03.2021 (Shift-I) Stage I

Answer: (b)

Best Solution: Prime factors of 119 are 7 and 17. So, x = 17 and y = 7. The value of 3y - x is 3*7 - 17 = 4.

Continuing with the formatted questions:

7. The L.C.M. of any two consecutive positive integers x and x + 1 is?

Options: (a) 1 (b) (x) (x + 1) (c) x (d) x + 1

Exam: RRB NTPC 18.01.2021 (Shift-II) Stage Ist

Answer: (b)

Best Solution: The LCM of any two consecutive integers is their product because they have no common prime factors other than 1. So, LCM of x and x + 1 is x(x + 1).

_____

8. If the product of two co-primes is 104, then their LCM is?

Options: (a) can't be determined (b) is 104 (c) is 1 (d) is equal to their HCF

Exam: RRB NTPC 31.01.2021 (Shift-I) Stage Ist

Answer: (b)

Best Solution: For two co-prime numbers, their LCM is always equal to their product. Given their product is 104, the LCM is also 104.

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9. The LCM of 6, 9, and x is 72. Which of the given options can be a possible value of x?

Options: (a) 18 (b) 12 (c) 36 (d) 24

Exam: RRB NTPC 17.02.2021 (Shift-II) Stage Ist

Answer: (d)

Best Solution: For the LCM of 6, 9, and x to be 72, x must be a factor of 72 that is not a factor of both 6 and 9. 24 fits this criterion.

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10. What is the LCM of 22, 24, 48, and 16?

Options: (a) 48 (b) 528 (c) 64 (d) 176

Exam: RRB NTPC 03.02.2021 (Shift-I) Stage Ist

Answer: (b)

Best Solution: The LCM of 22, 24, 48, and 16 can be found by identifying the highest powers of prime factors in each number and multiplying them: $2^4 \times 3 \times 11 = 528$.

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11. The LCM of 4, 6, and x CANNOT be: