## RRB NTPC MATHS MEGA QUIZ 22nd DECEMBER (QUESTIONS)

Q1. Two taps can fill a tank respectively in 20 and 30 min . When the tank was empty both the taps were opened and after some time first tap was closed. It took 18 min to fill the tank. After how much time of the beginning the first tap was closed ?
(a) 5 min
(b) 8 min
(c) 10 min
(d) 12 min

Q2. A train 150 metres long crosses a milestone in 15 seconds and crosses another train of the same length travelling in the opposite direction in 12 seconds. The speed of the seconds train in $\mathbf{k m} / \mathbf{h r}$ is
(a) 52
(b) 56
(c) 54
(d) 58

Q3. A person can row a distance of one km upstream in ten minutes and downstream in four minutes. What is the speed of the stream?
(a) $4.5 \mathrm{~km} / \mathrm{h}$
(b) $4 \mathrm{~km} / \mathrm{h}$
(c) $9 \mathrm{~km} / \mathrm{h}$
(d) $5.6 \mathrm{~km} / \mathrm{h}$

Q4. If $\mathbf{6 0}$ subtracted from $\mathbf{6 0 \%}$ of a number the remainder is $\mathbf{6 0}$, then what is the number ?
(a) 120
(b) 150
(c) 180
(d) 200

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Q5. A ball bounces from a hard floor after falling from 10 meter of height. During collision its energy reduces by $20 \%$. Up to what height it will bounce now?
(a) 2 m .
(b) 8 m .
(c) 4 m .
(d) 6 m .

Q6. In what ratio mixture of $30 \%$ concentration of alcohol and $50 \%$ concentration of alcohol are to be added so that the resultant mixture will be $35 \%$ concentration of alcohol ?
(a) $2: 1$
(b) $3: 1$
(c) $3: 3.5$
(d) $3: 5$

Q7. In a college, $\mathbf{4 0 \%}$ of the students were allotted group $A, 75 \%$ of the remaining were given group $B$ and the remaining 12 students were given group $C$. Then the number of students who applied for the groups is
(a) 100
(b) 60
(c) 80
(d) 92

Q8. A trader sold an item at a loss of $\mathbf{2 0 \%}$. Had he sold it for Rs. 100 more, he would have gained a profit of $5 \%$. What is the cost price of the item?
(a) Rs. 200
(b) Rs. 25
(c) Rs. 400
(d) Rs. 250

Q9. An item is sold for Rs. 178 at $11 \%$ loss. What should be the selling price (in rupees) to get a profit of $\mathbf{1 1 \%}$ ?
(a) 222.50
(b) 267
(c) 222
(d) 220

Q10. A dishonest dealer professes to sell his goods at the cost price but uses a false weight of 850 g instead of 1 kg . His gain percent is
(a) $17 \frac{12}{17} \%$
$17 \frac{11}{17} \%$
(c) $71 \frac{11}{17} \%$
(d) $11 \frac{11}{17} \%$

Q11. The ratio of the income of Ram and Shyam is $7: 17$ and the ratio of the income of Shyam and Sohan is $7: 17$. If the income of Ram is Rs. 490 then what is the income of Sohan ?
(a) Rs. 1690
(b) Rs. 2890
(c) Rs. 1790
(d) Rs. 1190

Q12. Mohan and Sohan started a business. Mohan invested Rs. 20,000 for 6 months. Sohan invested some amount for one year. At the end of a year Mohan got Rs. 6,000 in the total profit of Rs. 9,000. How much did Sohan invest initially?
(a) Rs. 10,000
(b) Rs. 5,000
(c) Rs. 12,000
(d) Rs. 8,000

Q13. The average age of Ram and his two children is 17 years and the average age of Ram's wife and the same children is 16 years. If the age of Ram is 33 years, the age of his wife is(in years):
(a) 31
(b) 32
(c) 35
(d) 30

Q14. Out of 10 teachers of school, one teacher retires and in his place, a new teacher of age 25 years joins. As a result, average age of teachers is reduced by 3 years. The age (in years) of the retired teacher is:
(a) 58
(b) 60
(c) 55
(d) 50

Q15. What will be the difference in compound interest and simple interest of Rs. 40,000 at 5\% per annum in 3 years?
(a) 300
(b) 205
(c) 305
(d) 200

Q16. A man invested ${ }^{\frac{1}{3}}$ of his capital at $7 \%,{ }^{\frac{1}{4}}$ at $8 \%$ and the remainder at $10 \%$. If his annual income is Rs. 561, the capital is
(a) 5400
(b) 6000
(c) 6600
(d) 7200

Q17. A shopkeeper marks the price of an article at Rs 80 . What will be the selling price, if he allows two successive discounts at 5\% each?
(a) Rs 72.2
(b) Rs 72
(c) Rs 85
(d) Rs 7.2

Q18. Which of the following successive discounts is better to a customer-
(a) $20 \%, 15 \%, 10 \%$
(b) $25 \%, 12 \%, 8 \%$
(a) (a) is better
(b) (b) is better
(c) (a) or (b) (both are same)
(d) None of these

Q19. The respective ratio of boys and girls in a college is $31: 23$. After the admission of 75 more girls in the college, this ratio becomes $124: 107$. How many girls will have to admit in the class to make the number of boys and girls equal in the college ?
(a) 75
(b) 90
(c) 60
(d) 85

Q20. The sum of present ages of $A$ and $B$ is 7 times the difference of their ages. 5 years hence, their total ages will be 9 times the difference of their ages. What is the present age of elder one in years) ?
(a) 25
(b) 20
(c) 15
(d) 18

Q21.Which of the following number will be divisible by $132 ?$
(a) 488208
(b) 488268
(c) 488368
(d) 466686

Q22. When a number is divided by 124 , the quotient is $\mathbf{8 6}$ and the remainder is 24 . The number is
(a) 11688
(b) 11668
(c) 10688
(d) 10668

Q23. The number 323 has
(a) three prime factors
(b) five prime factors
(c) two prime factors
(d) no prime factor

Q24. Number of digits in the square root of 17956 is:
(a) 3
(b) 5
(c) 6
(d) 4

Q25.
If $a=\sqrt{2}+1, b=\sqrt{2}-1$, then the value of $\frac{1}{a+1}+\frac{1}{b+1}$ is
(a) 9
(b) 3
(c) 1
(d) 2


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