PAPER - II
(ARITHMETICS)

Time : 3 hours
Full Marks : 100

The figure in the margin indicates full mark for the questions.

1. Choose the correct answer: (3x1=3)
   a) The product of the expression $(5+\sqrt{3})(2+\sqrt{2})$ is -
      i) $5\sqrt{2}+2\sqrt{3}+10$
      ii) $10+5\sqrt{2}+2\sqrt{3}+\sqrt{6}$
      iii) $10+2\sqrt{5}+3\sqrt{2}+\sqrt{6}$

   b) The sum of the present values (or the principals) of all instalments is equal to -
      i) Interest   ii) Amount   iii) Sum borrowed

   c) 18% of 500 is
      i) 80   ii) 90   iii) 100

2. Express 0.17 as percent.   (2)

3. The CP of 25 articles is equal to SP of 20 articles. Find the loss or gain percent.   (3)

4. Give the following values, find the unknown values.   (2x2=4)
   a) CP = Rs. 1200, SP = Rs. 1350, Profit/Loss=? 150'
   b) CP = Rs. 720, SP = ?, Profit = Rs. 55.50   775.50'

5. David took a match test and got 25 correct and 15 incorrect answer. What was the percentage of incorrect answers?   (3)

6. If you substract $\frac{1}{2}$ from a number and multiply the result by $\frac{1}{2}$ you get $\frac{1}{8}$. What is the answer?   (3)

7. Two number are in the ratio 5:3 If they differ by 18, what are the number? 3off.   (3)

8. Simplify and solve the following linear equations :   (3x2=6)
   a) $3(t-3) = 5(2t+1)$ - 2
   b) $\frac{8x-3}{3x} = 2$ 312.

9. A factory requires 42 machines to produce a given number of articles in 63 days. How many machines would be required to produce the same number of articles in 54 days?   (3)

10. Find the speed of 30 km/hr into a m/s. (3)

11. A thunder-cloud is at a distance of 3.3 km. If the sound of thunder-cloud follows the flash after 10 seconds, find the speed at which sound travels. (3)

12. A can do a piece of work in 2 days. B can do it in 3 days and C in 6 days. What is the time taken to finish the work if they all work together (3)

13. Solve the expression $\dfrac{3x+6}{x^2-4}$ in its simplest form (3)

14. Maria invested Rs. 8000 in business. She would paid interest at 5% per annum compounded annually. Find the amount credited against her name at the end of the second year. (4)

15. A can do a piece of work in 15 days. He work for 5 days. Then what is the fraction of work that is left? (4)

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