ACHIEVERS FOUNDATION

MATRICES , AP & GP

Total time-60min
Tatal marks - 25

1. Generally in matrix A X B ……. B X A (2)

   $(a) <$ $(b) >$ $(c) \neq$ $(d) =$

2. Write the next term of the $\sqrt{8}, \sqrt{18}, \sqrt{32}, \ldots\ldots\ldots$ (2)

3. Find 20 **th** term from the end of an A.P. 3,7,11..... 407. (2)

4. Find four numbers forming a GP in which the third term is greater than the first terms by 9 and second term is greater than the 4th by 18. (3)

5. A sum of Rs. 280 is to be used towards four prizes. If each prize after the first is Rs. 20 less than its preceding prize, find the value of each of the prizes. (3)

6. A ladder has rungs 25 cm apart. The rungs decrease uniformly in length from 45 cm at the bottom to 25 cm at the top. If the top and bottom rungs are 2.5 meter apart, what is the length of the wood required for the rungs? (3)

7. Find the sum of the following series- (4)

   (a) 5+55+555+…….. to n terms

   (b) 0.7+0.77+0.777+…… to n terms.

8. Find X and Y if $\begin{bmatrix} 3 & -2 \\ -1 & 4 \end{bmatrix}\begin{bmatrix} 2X \\ 1 \end{bmatrix} + 2\begin{bmatrix} -4 \\ 5 \end{bmatrix} = \begin{bmatrix} 8 \\ 4Y \end{bmatrix}$ (3)

9. Find the 2 x 2 matrix X which satisfies the equation: **[3]**

$$\begin{bmatrix} 3 & 7 \\ 2 & 4 \end{bmatrix}\begin{bmatrix} 0 & 2 \\ 5 & 3 \end{bmatrix} + 2X = \begin{bmatrix} 1 & -5 \\ -4 & 6 \end{bmatrix}$$