

∴ Extra Sum on AP :-

- 1) The digits of a positive number of three digits are in AP and their sum is 15. The no. obtained by reversing the digits is 594 less than the original number. Find the number.
- 2) Find the middle term of the sequence formed by all three digit numbers which leave a remainder 3, when divided by 4. Also, find the sum of all numbers on both sides of the middle terms separately.
- 3) A thief runs with a uniform speed of 100 m/min. After one min, a policeman runs after the thief to catch him. He goes with a speed of 100 m/min in the first min and increases his speed by 10 m/min every succeeding minute. After how many times the police man will catch the thief?
- 4) If the sum of the series $(x+1) + (x+4) + (x+7) + (x+28) = 155$, then find the value of x .

- 5) If T_m , T_{m+n} and T_{m-n} are respectively m^{th} , $(m+n)^{\text{th}}$ and $(m-n)^{\text{th}}$ term of an AP respectively, then prove that —

$$T_{m+n} + T_{m-n} = 2T_m$$

- 6) Find the sum of $2n$ terms of the series —

$$1^2 - 2^2 + 3^2 - 4^2 + 5^2 - 6^2 + \dots$$

- 7) Show that the sum of an AP whose first term is a , second term b and the last term is c , is equal to —

$$\frac{(a+c)(b+c-2a)}{2(b-a)}$$

- 8) Divide 56 in four parts in AP, such that the ratio of the product of their extremes (1st and 4th) to the product of means (2nd and 3rd) is $5:6$.