

MATHEMATICS CORE-XI-B & D

CHAPTER-SEQUENCE AND SERIES

WORD PROBLEMS

- (1) *Along a road lie an odd number of stones placed at intervals of 10 m. These stones have to be assembled around a middle stone. A person can carry only one stone at a time. A man carried the job with one of the end stones by carrying them in succession. In carrying all the stones he covered a distance of 3 km. Find the number of stones.*
- (2) *A square is drawn by joining the mid points of the sides of a square. A third square is drawn inside the second square in the same way and the process is continued indefinitely. If the side of the square is 10 cm, find the sum of the areas of all the squares so formed.*
- (3) *After striking a floor a certain ball rebounds $\left(\frac{4}{5}\right)^{th}$ of the height from which it has fallen. Find the total distance that it travels before coming to rest, if it is gently dropped from a height of 120 m.*
- (4) *The inventor of the chess board suggested a reward of one grain of wheat for the first square, 2 grains for the second, 4 grains for the third and so on, doubling the number of grains for subsequent squares. How many grains would have to be given to inventor?*
- (5) *One side of an equilateral triangle is 18 cm. The mid points of its sides are joined to form another triangle whose mid points, in turn, are joined to form still another triangle. The process is continued indefinitely. Find the sum of the*
(i) *perimeters of triangles.* (ii) *areas of triangles.*