

SEQUENCES & SERIES (Q 5, PAPER 1)

2011

5. (a) The first term of a geometric sequence is 5 and the common ratio is 2.
Find the first four terms of the sequence.
- (b) The first three terms of an arithmetic series are $7 + 4 + 1 + \dots$.
- (i) Find d , the common difference.
- (ii) Find T_{15} , the fifteenth term of the series.
- (iii) Find S_{15} , the sum of the first fifteen terms of the series.
- (c) The first three terms of a geometric sequence are
 $h - 1$, $2h$ and $5h + 3$,
where h is a real number greater than 1.
- (i) Find the value of h .
- (ii) The k th term of the sequence is 486. Find k .

ANSWERS

5 (a) 5, 10, 20, 40

(b) (i) -3

(ii) -35

(iii) -210

(c) (i) $h = 3$

(ii) $k = 6$