Short questions

Write the short answers of the following

Q.1: Define a sequence.

Q.2: Define finite sequence.

Q.3: Define infinite sequence.

Q.4: Define common difference.

Q.5: Write the nth term of arithmetic progression.

Q.6: Find the 7^{th} term of A.P. in which the first term is 7 and the common difference is –3.

Q.7: Find the 7^{th} term of an AP 1, 4, 7, ……..

Q.8: Find the sequence whose general term in 4n +1.

Q.9: Define a series.

Q.10: Write the formula to find the sum of n term of an arithmetic sequence.

Q.11: Find the sum of the series 3 + 11 + 19 + ……to 16 terms.

Q.12: Find the sum of the series 5 + 8 + 11 + 14 + …….to n terms.

Q.13: Define arithmetic means (AMs).

Q.14: Find the A.M. between $\sqrt{5} - 4$ and $\sqrt{5} + 4$.

Q.15: Define a common ratio.

Q.16: Write the nth term of a geometric progressions .

Q.17: Find the term indicated in the following G.P. 1, 3^3, 3^6, …… 6^{th} terms.

Q.18: write down the geometric sequence in which first term is 2 and the second term is – 6 and n = 5.

Q.19: Write the formula of sum of the first n terms of an geometric sequence for $|r| < 1$ and for $|r| > 1$

Q.20: Define geometric means.

Q.21: Find the G.M. between (i) 8 and 72 (ii) $\frac{4}{3}$, 243.

Q.22: Sum to 5 term the series 1 + 3 +9 + ……

Q.23: Find the sum of the following series: $1 + \frac{1}{3} + \frac{1}{9} + \ldots\ldots$ to 6 terms.

Q.24: Find the sum of infinite geometric series in which a=128, $r = -\frac{1}{2}$

Q.25: Find the sum of following infinite geometric series $2+\sqrt{2}+1+\ldots\ldots\ldots\ldots\ldots$

Answers

Q6 $a_7 = -11$ Q7 $a_7 = 19$ Q8 5 , 9 , 13,……

Q11 1008 Q12 $\frac{n}{2}[7+3n]$ Q14 $\sqrt{5}$

Q17 $(27)^5$ Q18 2 , -6 , 18 , -54 , 162 Q21 (i) ± 24 (ii) ± 9

Q22 121 Q23 $\frac{364}{243}$ Q24 $\frac{256}{3}$ Q25 $\frac{4}{2-\sqrt{2}}$