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| **POST MIDTERM TEST****CRT-07** |
| **NAME :** | **CLASS: XI - NEWTON** | **SUBJECT: MATHS** | **DATE:** **25.10.19** |
| **CH: – 9 – Sequence and Series** | **MARKS:**  | **25** |

1. If $\frac{a+bx}{a-bx}$ = $\frac{b+cx}{b-cx}$ = $\frac{c+dx}{c-dx}$ (*x* $\ne $ 0), then show that a, b, c and d are in G.P. (3)

2. The seventh term of a G.P. is 8 times the fourth term and 5th term is 48. Find the G.P. (3)

3. If *pth, qth and rth* terms of an A.P. as well as a G.P. are a, b and c respectively.

 Prove that *a*b-c *b*c-a *c*a-b = 1. (3)

4. Find the 4th term from the end of the G.P. $\frac{1}{2}$, $\frac{1}{6}$, $\frac{1}{18}$ , $\frac{1}{54}$, …..$\frac{1}{4374}$ . (3)

5. If the 4th and 9th terms of a G.P. be 54 and 13122 respectively, find the G.P. (3)

6. The ratio of the sum of n terms of two A.P.ˈs is (7n + 1) : (4n + 27). Find the ratio of their *mth*  terms. (3)

7. The ratio of the sums of *m* and *n* terms of an A.P. is *m*2 : *n*2. Show that the ratio of the *mth* and *nth* terms is (*2m – 1) :* (*2n* – 1). (3)

8. The sums of *n* terms of three arithmetical progression are *S*1, S*2* and S3 . The first term of each is unity and the common differences are 1, 2 and 3 respectively. Prove that S1 + S3 = 2 S2. (3)

9. Write the general form of G.P. and give an example. (1)