

Pre-Content/content Post-Content	Learning Outcome/Objectives	
Pre-Content	General	Specific
Population of human beings or bacteria growth at different times, patterns of petals in a flower, leaf formation, form a sequence in nature. Content Sequence and series, Recall Arithmetic Progression (A.P), arithmetic mean (A.M), Sum of n terms of AP and GP. For AP $t_n = a + (n-1)d$ $S_n = \frac{n}{2}[2a + (n-1)d]$ For GP $t_n = ar^{n-1}$ $S_n = a \frac{(r^n - 1)}{r-1}$ $S_\infty = \frac{a}{1-r}$ (sum to infinity) Geometric progression, geometric mean, general terms of AP and GP. Relationship between AM and GM Sum to n terms of special sequences $\sum n = \frac{n(n+1)}{2}$ $\sum n^2 = \frac{n(n+1)(2n+1)}{6}$ $\sum n^3 = \frac{[n(n+1)]^2}{4}$ Post-content To work out extra practice questions	Students will be able to recall A.P studied earlier draw inference on the basis of various patterns develop attitude to think, analyse and articulate logically. acquaint students with different aspects of Mathematics used in daily life by taking examples from G.P generalise. The n^{th} term of G.P revere great Mathematicians and their contribution in finding the sum of some special sequence Admire the beauty of sequence in nature. ✓ apply the knowledge in solving practical problems	Students will be able to recall and appreciate Arithmetic progression $a, a+d, a+2d \dots a+(n-1)d$ and its sum $\frac{n}{2}[2a + (n-1)d]$ arithmetic means of a and b familiarize and define geometric progression as $a, ar, ar^2, ar^3 \dots ar^{n-1}$ and its sum $S_n = a \frac{r^n - 1}{r-1}$ calculate geometric mean between two numbers a and b. • Observe some more special sequence. $\sum = 1+2+3+4+\dots+n = \frac{n(n+1)}{2}$ $\sum n^2 = 1^2+2^2+3^2+\dots+n^2 = \frac{n(n+1)(2n+1)}{6}$ $\sum n^3 = 1^3+2^3+3^3+\dots+n^3 = \frac{[n(n+1)]^2}{4}$ Sum of G.P up to infinity and to admire the beauty of sequence. acquire problem solving skills by performing calculations to solve various problems

Home Work /Assignment

1)NCERT Exercise questions (Questions from Ex .9.1 to 9.4 and misc. Ex from NCERT book)

2)Exemplar problem

Teacher's Activity	Students' Activity	Teacher's Observation and Remedial action taken
Teacher will explain Sequence in nature will be examples and then Mathematical questions on them would be asked. explain the concept by taking examples from the NCERT book. derive general patterns facilitate the working of ex 9.2 P185 show the solution of Some of the questions from Ex 9.3 give some questions as home-work Miscellaneous exer, most of the questions will have to be shown as each one is different	Students will be asked to look for examples of Fibonacci sequence in nature from the internet. solve questions from Ex 9.1 in class under the teacher's observation. solve questions from Ex 9.2 in class and teacher will facilitate and help but if students are stuck, then the teacher will show the working. attempt questions from exercise 9,3 in presence of the teacher solve questions from supplementary exercise on G.P upto infinity solve the questions given as HW	Teacher will write observation and remarks after the class

Teaching Aids; Smart board,.

Methodology/Innovative Methods:, lecture and interpretation.

Interdisciplinary Links: Used in Science and Engineering.