

Sequences and Series-1
Model Exam Question paper - 1

11th Standard

Business Maths

Reg.No. :

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I. Answer all the questions

Time : 00:35:00 Hrs

Total Marks : 25

Part-A

5 x 1 = 5

- 1) The progression formed by the reciprocals of the terms of an H.P. is
(a) A.P. (b) G.P. (c) H.P. (d) none of these
- 2) $\frac{1}{8}, x, \frac{3}{2}$ are in H.P. then x is equal to
(a) $\frac{3}{13}$ (b) $\frac{4}{13}$ (c) $\frac{5}{13}$ (d) $\frac{6}{13}$
- 3) The Arithmetic Mean between a and b is
(a) $\frac{ab}{2}$ (b) $\frac{a+b}{2}$ (c) $\sqrt{ab}$ (d) $\frac{a-b}{2}$
- 4) The Geometric Mean between 3 and 27 is
(a) 15 (b) 12 (c) 19 (d) none of these
- 5) The Harmonic Mean between 3 and 27 is
(a) 12 (b) 25 (c) 150 (d) 12.5

Part-B

4 x 2 = 8

- 6) Find the 4th and 7th term of the H.P. $\frac{1}{2}, \frac{4}{13}, \frac{2}{9}$
- 7) Prove that $\log_3^2, \log_6^2$ and $\log_{12}^2$ are in H.P.
- 8) If a, b, c are in G.P., prove that $\log_a^m, \log_b^m$ and $\log_c^m$ are in H.P.
- 9) Insert 3 Arithmetic Mean between 5 and 29.

Part-C

4 x 3 = 12

- 10) The 9th term of an H.P. is $\frac{1}{465}$ and the 20th term is $\frac{1}{388}$. Find the 40th term of the H.P.
- 11) The quantities x, y, z are in A.P. as well as in H.P. Prove that they are also in G.P.
- 12) If 3 numbers a, b, c are in H.P. show that $\frac{a}{c} = \frac{a-b}{b-c}$
- 13) Insert 4 Harmonic Mean between $\frac{1}{5}$ and $\frac{1}{20}$.
