

**GOVERNMENT POLYTECHNIC, GAYA**

**Class Test Examination for 1<sup>st</sup> Semester (Group - I) Students**

Course Name : Basic Mathematics  
Instructor: Mritunjay Kumar Singh  
Class Test Examination: 01

Maximum Marks: 05  
Time Allowed: 01 hour  
Date: 10 - 09 - 2018

Note: Attempt all problems. The marks of each problem indicated in the right margin.

1. Define logarithm. Find the logarithm of  $32\sqrt[5]{4}$  to base  $2\sqrt{2}$ . [1]
2. Define partial fraction. Resolve  $\frac{3x^2 + x - 2}{(x - 2)^2(1 - 2x)}$  into partial fraction. [ $\frac{1}{2}$ +1]
3. What is the difference between proper polynomial fraction and Improper polynomial fraction? Resolve  $\frac{x^2 + 7x + 3}{x^2 + 7x + 10}$  into partial fraction. [ $\frac{1}{2}$ +1]
4. Define Scaler matrix. Give example(s) of such matrices which is both upper as well as lower triangular matrix. [1]

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