Internal Assignment for UG Mathematics(UGP)-2022
Department of Mathematics(UG & PG)
Ramananda College
Semester VI
F.M. 10
TIME 30 Minutes
Paper Code: SP/MTH/604/SEC-4
(Numerical Analysis with Practical)

Answer any two questions: 2x5=10

1. What is relative error? If x=3.21 and y=5.32 have absolute errors $\Delta x = 0.004$ and $\Delta y = 0.007$. Find the relative error in x+y.
2. (i) Prove that $\Delta.\nabla \equiv \Delta - \nabla$
   (ii) If N is a function of different measurable quantities u, v, w, x, y and is given by $N = \frac{u^p v^q w^n}{x^s y^t}$. Find an upper limit to the relative error to the measure of N.
3. Discuss the order of convergence of Newton-Raphson method and find its error.
4. Find the error in Trapezoidal rule and Why simpson -1/3 rule is more accurate than the Trapezoidal rule .