

Parasat College.
Internal Assessment Examination - 2022
Subject Mathematics Sem - VI
Subject Code: MTMGDSE03T (Numerical Methods)
F.M. - 10 Time - 1hr.

Answer any one question:

1. Find the approximate value of $\int_0^1 \frac{x dx}{1+x^2}$ upto four places of decimal by Simpson's $\frac{1}{3}$ rule taking 6 equal sub-interval and hence find the approximate value of $\log 2$ correct to four places of decimal. 8+2
2. Using the method of bisection compute a root of $x^3 - 4x - 9 = 0$ between 2 and 3 upto three significant digits.
3. Use Newton's forward interpolation formula to find the value of $f(1.1)$ from the following table.

x	1.0	1.2	1.4	1.6	1.8	2.0
$f(x)$	2.71828	3.32012	4.05520	4.95303	6.04965	7.38906
4. Compute by Trapezoidal rule the value of $\int_0^1 \frac{dx}{1+x^2}$ upto four places of decimal taking four equal sub-intervals and hence obtain the approximate value of π correct to four decimal places. 8+2