

Model Question Paper

MCA II Sem Subject : CONM

1. Short Answer type questions

- (i) Write Stirling formula
- (ii) What is the order of convergence in Newton Raphson Method.
- (iii) Define interpolation.
- (iv) Explain the difference between regular falsi and secant method.

2. Find the first and second derivatives at $x=1.1$ from the following table

x	1	1.2	1.4	1.6	1.8	2.0
F(x)	0	0.128	0.544	1.296	2.432	4

3. A second degree polynomial passes through (0,1) , (1,3) , (2,7) and (3,13). Find the polynomial.
4. Use Simpson's 1/3 and 3/8 Rule to evaluate $\int_0^1 \frac{dx}{1+x^2}$. Hence obtain the approximate value of π in each case.
5. Explain the Runge –Kutta and Predictor –Corrector methods with example