REGISTRATION NUMBER | | | | | | | | | | |

SRINIX COLLEGE OF ENGINEERING

2nd INTERNAL EXAMINATION 2020-21

Sub – Math-III Branch - All

Full marks- 60 Time – 2.00 hrs

1. Answer any all questions (Part – A) **(2 x 10 =20)**

a) What is the standard Deviation of Random variable ?
b) What is the Binomial Distribution formula ?
c) What is the rate of convergence of secant method ?
d) If A and B are two independent events with P(A) = 1/3 and P(B) = 3/4 then find P(A∩B)
e) What is Trapezoidal Rule ?
f) What is the Gauss – Legendre two point formula ?
g) What is the Simpson's 3/8 Rule ?
h) What is the expected value ?
i) If P(A) = 3/5 ; P(B) = 2/5 and P(A∩B) = 1/5 find P(A∪B).
j) What is Poisson distribution ?

2. Answer any four questions (Part – B) **(5 x 4 = 20)**

a) Solve by Crout's method the system of equation
$x_1 + 2x_2 + 3x_3 = 14$
$2x_1 + 5x_2 + 2x_3 = 18$
$3x_1 + 2x_2 + 5x_3 = 22$
b) If the sum of the mean and the variance of binomial distribution of 5 trials is 4.8 . Find the distribution .
c) Evaluate ${}_0\int^1 x/(1+x)\, dx$ by using Simpson's 1/3 rule for n = 6.
d) Solve Numerically dy/dx = y-x , where y(0) = 2; h = 0.1 ; Find y(0.1) by Runge – kutta method of order 4.
e) A fair die is thrown once . find the probability distribution of the random variable " getting an even number"

3. Answer any two questions (Part – C) **(10 x 2 = 20)**

a) State and prove Baye's theorem ?
b) Evaluate the Integral $I = {}_0\int^1 dx/1+x$ using Gauss-Legendre formula.
c) Using Euler's method find out y(0.4) given that dy/dx = x+y ; y(0) = 1, h=0.1