Printed Pages – 4

J-116

B.A. (Part-III) Examination, 2021

MATHEMATICS

Paper - III

(Optional - IV)

(Programming in 'C' & Numerical Analysis)

Time Allowed : Three Hours

Maximum Marks : 30

Minimum Pass Marks : 10

Note : Attempt all five questions. One question from

each unit is compulsory. All questions carry equal

marks.

UNIT-I

Q. 1. Write short notes :

(a) Algorithm

(b) Flow chart

J-1	1	6		

P.T.O.

6

J-116

(2)

Q. 2. Explain various types of conditional statement

using suitable example. 6

UNIT-II

Q. 3. Find a real root of the equation using Regula Falsi

method, correct to three decimal places : 6

 $x^3 - 4x - 1 = 0$

Q. 4. Solve using bisection method :

 $x^3 - 2x - 5 = 0$

UNIT-III

Q. 5. Solve by Jacobi method :	
--------------------------------	--

10x + y + z = 122x + 10y + z = 13

2x + 2y + 10z = 14

6

6

(3)			(4)		
Q. 6.	6. Solve by Gauss elimination method : 6		UNIT-V		
10x + y + z = 12			Q. 9. Write short notes : 6		
			(a) Inverse transform method		
2x + 10y + z = 13			(b) Hit or Miss Monte-Carlo integration		
	2x + 2y + 10z = 14		Q. 10. Solve by Monte-Carlo method : 6		
	UNIT- IV		$\int_{0}^{2} (1+x)^{3} dx$		

Q. 7. Solve y' = x + y with y(0) = 1 for x = 0.5 using

Taylor series method. 6

Q. 8. Given :

 $\frac{dy}{dx} = x + y$ with y(0) = 1 at x = 0.4 using RK

method.

J-116

6