DEPARTMENT OF MATHEMATICS – KANDI RAJ COLLEGE – 1ST SEMESTER INTERNAL EXAMINATION 2021

QUESTION PAPER FOR PROGRAMME COURSE CANDIDATES FOR EXAMINATION DATED: 07.03.2022

FULL MARKS: GCC/ PCC – 10

1. Answer any ONE question: 1 × 05

(a) For what value of k the equation $x^2 + kxy - 2y^2 + 3y - 1 = 0$ represent pair of straight line and find the angle between them.

(b) Find the polar equation of a circle whose centre is (k, α) and radius a.

2. Find the cubic roots of unity by using the De Moivre's theorem. 02

3. Define symmetric and skew-symmetric matrix and write the matrix 03

$$A = \begin{pmatrix} 1 & 4 & 5 \\ 2 & 6 & 7 \\ 8 & 9 & 3 \end{pmatrix}$$

as a sum of symmetric and skew-symmetric matrix.

Question for Programme Course ends here.