ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM
B.Sc Mathematics Syllabus 2020-21 A.Y
MATHEMATICAL SPECIAL FUNCTIONS

Semester – V (Skill Enhancement Course- Elective)

<u>Learning Outcomes:</u>

➢ Students after successful completion of the course will be able to:

➢ Understand the Beta and Gamma functions, their properties and relation between these two functions, understand the orthogonal properties of Chebyshev polynomials and recurrence relations.

➢ 2 Find power series solutions of ordinary differential equations.

➢ solve Hermite equation and write the Hermite Polynomial of order (degree) n, also find the generating function for Hermite Polynomials, study the orthogonal properties of Hermite Polynomials and recurrence relations.

➢ Solve Legendre equation and write the Legendre equation of first kind, also find the generating function for Legendre Polynomials, understand the orthogonal properties of Legendre Polynomials.

➢ 5. Solve Bessel equation and write the Bessel equation of first kind of order n, also find the generating function for Bessel function understand the orthogonal properties of Bessel function.