OBJECTIVES:

1. Studying root finding algorithms.

2. Studying properties of polynomials, symmetric functions and derived functions.

3. Analyzing the nature and algebraic solutions of algebraic equations.

BSM 203 THEORY OF EQUATIONS										
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs./Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
3	1	---	4	4	25	50	25	---	---	100

UNIT I **10**

Introduction: Numerical and algebraic equations, polynomials and their graphical representation, maximum and minimum values of polynomials, general properties of polynomials and equations

UNIT II **10**

Relation between roots and co-efficients of equations, Descarte's rule of signs, positive and negative rule, transformation of equations

UNIT III **10**

Solution of reciprocal and binomial equations, Algebraic solution of the cubic and the biquadratic

UNIT IV **09**

Properties of the derived functions, theorem for multiple roots, symmetric functions of the roots

APPROXIMATE TOTAL **39 Hours**

Texts and References

1. W.S. Burnside and A.W. Panton, *The Theory of Equations*, Dublin University Press, 1954.
2. C. C. MacDuffee, *Theory of Equations*, John Wiley & Sons Inc., 1954.

OUTCOMES

1. Demonstrate algebraic facility with algebraic topics including linear, quadratic, and trigonometric functions.

2. Produce and interpret graphs of basic functions of these types.

3. Solve equations and inequalities, both algebraically and graphically.

4. Solving and modeling applied problems.