

# SARDAR PATEL UNIVERSITY

Programme: BCA

Semester: III

Syllabus with effect from: June 2019

Paper Code : <b>US03ABCA21</b>	Total Credit:
Title of Paper: Computer Oriented Numerical and Statistical Methods	2

Contact Hrs per week : 4

Exam Duration: 2hrs

Note: Scientific Calculator will be allowed during Examination.

Unit	Description in Detail	Weightage (%)
	<b>Following Methods and Topics will conduct in Practical Session.</b> <ol style="list-style-type: none"><li>1. Method of successive bisection.</li><li>2. Method of false position.</li><li>3. Method of Newton Raphson (Geometrically only)</li><li>4. Interpolation and Extrapolation with equal intervals</li><li>5. The Gregory-Newton formula for forward and backward interpolation.</li><li>6. Interpolation for unequal intervals using Newton's formula for divided differences.</li><li>7. Examples of differentiation of Linear Equation.</li><li>8. Higher order derivative of standard functions up to second order.</li><li>9. The matrix inversion method.</li><li>10. Examples based on Time Series- Secular trend, seasonal variation, cyclical variation and Irregular Variation.</li><li>11. Methods on measurement of components- the moving average method.</li></ol>	100%

### Basic Text & Reference Books:-

1. Sastry S.S: Introductory Methods of Numerical Analysis, Prentice Hall of India Pvt. Ltd.,
2. Salaria R.S.: Computer Oriented Numerical Methods, Book Publishing Co. Ltd., 2000(3)
3. Fundamentals of Statistics by S.C.Gupta, Himalaya Publishing House (6)
4. Rajaram V. Computer Oriented Numerical Methods, Prentice Hall of India Pvt. Ltd., 1983
5. Murray R. Spiegel: Theory and Problem of Statistics, McGraw Hill Schaum's Outline Series, 1981
6. A text book of Calculus with an Introduction to differential equations by Dr. Dinesh J. Karia, Mahendra L. Patel, Roopal Prakashan Vallabh Vidyanagar.