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| **Course -45 Title: Numerical Methods Sessional** |  |
| **Course No.: CCE 312 Credit : 0.75 Contact Hours: 0.75** | **Total Marks: 100** |

**11.1 Rationale:** The objective of the lab work is to familiarize students with implementation of numerical methods using Matlab.

**11.2 Objectives:**

* Select an algorithm leading to efficient computation and implement this in a programming language, suitable for scientific computing, e.g. Matlab Be familiar with calculation and interpretation of errors in numerical methods,
* Provide an estimate of the accuracy of the results
* Apply computer science for solving practical problems.

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| **11.3 Learning Outcomes** | **11.4 Course Content** | **11.5 Teaching  Learning Strategy** | **11.6 Assessment Strategy** |
| * Implement False position method. | False position method | * Exercise | * Assignment * Viva voce |
| * Implement Newton-Rhapson method. | Newton-Rhapson method | * Exercise | * Assignment * Viva voce |
| * Implement Cramer's rule. | Cramer's rule | * Exercise | * Assignment * Viva voce |
| * Implement Gauss Elimination method. | Gauss Elimination method | * Exercise | * Assignment * Viva voce |
| * Implement Gauss Jordan method. | Gauss Jordan method | * Exercise | * Assignment * Viva voce |
| * Implement Iteration method. | Iteration method | * Exercise | * Assignment * Viva voce |
| * Implement Newton's formula for forward and backward interpolation. | Newton's formula for forward and backward interpolation. | * Exercise | * Assignment * Viva voce |

**RECOMMENDED BOOKS AND PERIODICALS**