Progress Proforma (Theory)

Proforma A2

***Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Electrical Engineering\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

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| **SEMESTER/ YEAR** | **3rd** | **Credit Hours** | 03 |
| **Course Title:** | **Computational Methods in Power System Analysis** | **Code No:** |  |
| **TEACHER NAME** | Dr. Wazir Muhammad | | |

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| **WEEK 1 (Date:17/5/2020) Mode \_Cognitive & Psychomotor \_No.of Students attended (27/64)** | |
| **Lecture No.** | **Description** |
| 01 | Presents a brief introduction and impact of computes on power system engineering and the advantages of digital computation, Matrix Algebra, Types of matrices, Square Matrixม Order of Square Matrix, Diagonal Matrix, Off-Diagonal or Non Diagonal Elements, Upper and Lower Triangular Matrix, Unity or Identity Matrix, Null Matrix, Transpose of a Matrix, Symmetric Matrix. |
| **WEEK 2 (Date:31/5/2020) Mode Cognitive & Psychomotor No.of Students attended (25/64)** | |
|  | **Description** |
| 02 | Real and Complex Matrix, Multiplication of Matrices, Unitary Matrix, Determinant, Inverse of Matrix, Adjoint of the matrix, MATLAB Programming. |
| **WEEK 3 (Date:7/6/2020) Mode Cognitive & Psychomotor No.of Students attended (28/64)** | |
|  | **Description** |
| 03 | Incidence Matrix, Graph, Subgraph, Connected and Disconnected graph, Rank of graph, Oriented Graph, Degree of Node or Vertex, Indegree and Outdegree of Node, Power System Networks Converted into graphs, Plain Graph, Tree, Cotree, Twigs, Links or Chords, Cut Vertex, Cut-Sets, |
| **WEEK 4 (Date:14/6/2020) Mode Cognitive & Psychomotor No.of Students attended (25/64)** | |
|  | **Description** |
| 04 | Bus Admittance Matrix, , Formation of network matrices by singular transformations, Find the Bus Admittance Matrix using Singular Transformations, Bus Admittance Matrix by Inspection Method. |
| **WEEK 5 (Date:21/6/2020) Mode Cognitive & Psychomotor No.of Students attended (29/64)** | |
|  | **Description** |
| 05 | Mathematical Model of Power System Network, Forming Ybus Matrix using Kron Method, Bus Impedance Matrix, Calculations on Bus Impedance Matrix. |
| **WEEK 6 (Date:28/6/2020) Mode Cognitive & Psychomotor No.of Students attended (27/64)** | |
|  | **Description** |
| 06 | Introduction to Balanced Three Phase Connections, Basic formulas of Three Phase Power, Relationship between Star and Delta Connection, Symmetrical and Unsymmetrical Systems, Phase Sequence, Phase Voltage, Line Voltage, Phase Current, Line Current. |
| **WEEK 7 (Date:5/7/2020) Mode Cognitive & Psychomotor No.of Students attended (28/64)** | |
|  | **Description** |
| 07 | Calculations on Balanced Y-Y connected systems, Balanced Start-Delta Connected Systems, Per Unit Systems. |
| **WEEK 8 (Date:12/7/2020) Mode Cognitive & Psychomotor No.of Students attended (30/64)** | |
|  | **Description** |
| 08 | Three Watt meter method to measure three phase power, Difference between Three Phase Balanced System versus Unbalanced Systems, Unbalanced Delta Load, Unbalanced Star-Star Connection. |

**Name and Signature of Subject teacher**

**Note: Please obtain attendance proforma from concerned chairman and attach the same marking the attendance of students who have attended classes of May, June and two weeks of July 2020.**