



Kadi Sarva Vishwavidyalaya
Faculty of Engineering & Technology
Master of Engineering Semester III
(Electrical Power System)

(With effect from: Academic Year 2018-19)

Subject Code: MEEE303-N	Subject Title: Dissertation Phase – I
Pre-requisite	-

Teaching Scheme (Credits and Hours)

Teaching Scheme				Total Credit	Evaluation Scheme					
L	T	P	Total		Theory		Mid Sem Exam	CIA	Practical	Total
Hours	Hours	Hours	Hours		Hours	Marks	Marks	Marks	Marks	Marks
00	00	15	15	15	0	0	0	50	150	200

Learning Objectives:

The objective of this course is

- To develop and test one's ability to learn independently.
- To apply the concepts and theories learnt in previous years of study and work placements.
- To test one's ability to complete a substantial piece of work to a laid-down standard and within a given time period.
- To Identifying a topic and developing a research question or set of questions within an academically sound framework connected to specialization.
- To investigate the chosen topic in depth. This implies collecting and reviewing literature (e.g. books, papers, journals, websites, proceedings etc.) and understanding and interpreting the most up-to-date concepts and theories of your chosen academic field and/or thesis topic.

Outline of the Course:

- The Dissertation shall be related to the major field of his/her PG specialization work.
- The Dissertation should be one of the major pieces of evidence that students are familiar with or that student wants to be familiar with. It should reflect your specialist subject by means of deep and sustained study.
- The dissertation work shall be carried out by each candidate independently during the third and fourth semester under the guidance of one of the faculty members of the Department. If the project work is of inter-disciplinary nature, a co-guide shall be taken for the same or any other relevant Department.
- Dissertation Phase-I includes literature review, required theoretical input, study and comparison of various approaches for the proposed dissertation work.

INSTRUCTIONAL METHOD AND PEDAGOGY (Continuous Internal Assessment (CIA) Scheme)

- Department review committees should be formed, to review and give marks for CIA component.
- Student has to submit a dissertation proposal indicating the tentative title and broad outline of the proposed work and the name(s) of the supervisor(s) along-with their concurrence in writing within 30 days from the starting of the third semester.
- *Dissertation Phase-I* will be evaluated at least once during the semester and at the end of the semester as a part of continuous evaluation.
- After successful completion of *Dissertation Phase-I* only students are allowed for *Mid Semester Thesis Progress Review* and subsequently *Dissertation Phase-II*.

STUDENTS LEARNING OUTCOMES:

- At the end of the course the student gets exposure to construct and justify research questions related to the topic.
- Each student will be in a position to design a research investigation that incorporates appropriate theoretical approaches, conceptual models, and a review of the existing literature.
- Students will learn to structure a discussion in a coherent and convincing way by synthesizing the material in the context of the research questions.
- Students will be having sufficient collection of the literature/experimental data for the implantation/experimentation in *Dissertation Phase-II*.

Guidelines:

- *Dissertation Phase – I* (DP-I) report should comprise of (and not limited to) (i) Literature review citing minimum 5 (good journal/conference) papers (ii) Scope of thesis work (iii) Research Gap (iv) Problem Statement (iv) Overall Work Plan for various stages including *Dissertation Phase I* and *Phase II*, etc.
 - The DP-I report should be submitted at the time of DP-I examination, along with a detailed Power point presentation of work done. It is expected that about 40% work is completed at the time of examination.
 - The continuous evaluation component CIA should comprise of regularity/attendance (10/50), problem identification / significance of the work (10/50), quality and quantity of the proposed work (30/50).
 - Duly signed (by Guide(s) and Student) DP-I report should be sent to the external examiner. The external examiners shall be appointed by KSV.
 - Following are the subjects/areas (not limited to) for dissertation work.
1. Power System (control & monitoring)
 - (a) Protection of Power System
 - (b) Generation
 - (c) Transmission (FACTS Devices)
 - (d) Modelling of power system parameters
 - (e) Economics of Power System

- (f) Dynamics Of Power System
 - (g) HVDC
 - (h) High Voltage Engineering
2. Power Electronics
 - (a) Inverter, Multilevel Inverters
 - (b) Power Converters (topologies)
 - (c) Drives
 - (d) Applications of Power Electronics
 - (e) Components and devices
 3. Renewable Energy Sources & Technologies
 - (a) Solar Energy
 - (b) Wind Energy
 - (c) Hybrid Energy (combination of any)
 - (d) Fuel Cells
 - (e) Distributed power generation, control and grid interaction
 - (f) Battery management system
 4. Power Quality & Problems associated with it.
 5. Electrical Machines & control of it.
 6. Smart & Micro grids
 7. Robotics, Control, Automation & Sensors
 8. Measurements, Instrumentation & Measuring Devices. (Energy related)
 9. Circuits & Networking.
 10. Artificial Intelligence & Applications of It.
 11. IoT Based Projects (Internet of Things)
 12. Engineering Management
 13. Transportation (motor control, charging, railway traction, aircraft, space)
 14. Policy issues for DG, smart grids, renewables and restructuring
 15. Others