



COURSE SPECIFICATION 5TH SEMESTER:

ELECTIVE COURSE

Course Name : Diagnosis of Plant Diseases
Code : KL 676
Credit : (1-1)

Course Description:

Diagnosis of plant diseases is a course that discusses the principles and procedures for diagnosing diseases that attack plants. The study material in this course focuses on the basic concepts of disease diagnosis, its implementation stages for various types of diseases and procedures for evaluating disease incidence in plants. After attending this course, students are expected to be able to master and apply the basic principles of this diagnosis to make plant protection effective and be able to evaluate disease incidence in cultivated plants appropriately.

References:

- Agrios, GN (2005). Introduction to crop pathology. Elsevier Academic Press Publication
- Fang, Y., & Ramasamy, R. (2015). Current and prospective methods for crop disease detection. *Biosensors*, 5 (3), 537-561
- Ray, M., Ray, A., Dash, S., Mishra, A., Achary, KG, Nayak, S., & Singh, S. (2017). Fungal disease detection in crops: Traditional assays, novel diagnostic techniques and biosensors. *Biosensors and Bioelectronics*, 87, 708-723
- McCartney, HA, Foster, SJ, Fraaije, BA, & Ward, E. (2003). Molecular diagnostics for fungal crop pathogens. *Pest Management Science: formerly Pesticide Science*, 59 (2), 129-142
- Bebber, DP, & Gurr, SJ (2015). Crop-destroying fungal and oomycete pathogens challenge food security. *Fungal Genetics and Biology*, 74, 62-64

Topics:

1. Basic principles and general procedures in plant disease diagnosis activities
2. Fungal-caused plant diseases diagnostic procedure
3. Procedure for diagnosing plant diseases caused by bacteria
4. Procedure for diagnosing plant diseases caused by nematodes
5. Procedure for diagnosing plant diseases caused by viruses
6. Evaluation of plant disease incidence in the field