UNIVERSITY OF EMBU

2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

FIRST YEAR EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN CROP PROTECTION

ACP 603: CROP DISEASE EPIDEMIOLOGY AND MANAGEMENT

DATE: APRIL 10, 2017 **TIME: 2:00-5:00PM**

INSTRUCTIONS:

Answer ANY FOUR Questions

QUESTION ONE

a) Discuss host and pathogen factors that affect the development of epidemics (18 Marks)

b) Outline the attributes of a successful plant disease forecasting system (7 Marks)

QUESTION TWO

a) Describe the various ways plant disease intensity could be measured (8 Marks)

b) Discuss the monomolecular model (9 Marks)

c) Discuss how multispectral radiometry is used in the measurement of disease intensity (8 Marks)

QUESTION THREE

Write short notes on the following:

a) Biological disease control (10 Marks)

b) Vertical resistance (10 Marks)

c) Crop inspection and certification (5 Marks)

QUESTION FOUR

a) You have been appointed as the new farm manager at University of Embu. Suggest an integrated disease management programme that could be used in the management of coffee rust disease (10 Marks)

b) You are confronted with plant diseases that are difficult to measure their severities. Suggest and describe any two ways that you could use to measure the severities of these diseases (10 Marks)

c) Briefly describe a disease forecasting system that is based on amounts of initial and secondary inoculum (5 Marks)

QUESTION FIVE

a) Discuss the strategies that could be used to delay the development of pesticide/fungicide resistance (9 Marks)

b) Differentiate between tolerance, resistance and immunity to disease in plants (6 Marks)

c) Stem rust of wheat is a polyclic disease of great importance in Kenya. Suggest ways of delaying disease epidemic during a season when the environmental conditions are favourable for disease development. (10 Marks)

END