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(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER EXAMINATIONS
SPECIAL EXAMINATION**

**FOR THE DEGREE
OF
MASTER OF SCIENCE IN CROP PROTECTION**

COURSE CODE: BCP 82 1

COURSE TITLE: PEST MANAGEMENT SCIENCE

DATE: FRIDAY, 5TH AUGUST 2022

TIME: 8:00 – 11:00 A.M.

INSTRUCTIONS TO CANDIDATES

Answer **FOUR** questions
Question **ONE** is Compulsory

TIME: 2Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over. ►

Compulsory

1. A sorghum farmer in Siaya County has grown the crop on 100 acres of land. The crop is expected to yield as high as 2,500 kg per acre. Market price for sorghum is Kshs. 50 per kg. Sorghum seeds costed the farmer Kshs. 200 per packet that was enough for an acre of land. The cost of fertilizer was Kshs. 2,000 per acre. Total labour cost was Kshs. 100,000. However, *Striga hermonthica*, an endemic parasitic weed, is expected to cause up to 15 % crop loss at a density of 50 larvae per 100 m² of sorghum plants. Control of this weed requires herbicide application amounting Kshs. 20,000 per acre inclusive of labour. Advise the farmer on the implications of weed management in sorghum production [15 marks]

Choose any three

2. The behaviour of the weaver bird *Quelea quelea* is the main challenge to its control in rice. Discuss. [15 marks]
3. Propose an IPM pyramid for the diamondback moth *Plutella xylostella* in cabbage. [15 marks]
4. Propose IPM interventions based on the disease triangle of the wilt fungus *Fusarium oxysporum* in tomato. [15 marks]
5. Design an experiment to show that the African bollworm *Helicoverpa armigera* and the corn earworm *Helicoverpa zea* differ in susceptibility to the entomopathogenic fungus *Beauveria bassiana*. [15 marks]