



**LEAD CITY UNIVERSITY, IBADAN**  
**Faculty of Sciences**  
**Department of Microbiology**

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**COURSE PARTICULARS**

**Course Title: Introduction to Nematology**

**Course Code: BIO 312**

**Lecturers:-**

**Name:** Dr. B.A. Bamkefa

**Qualification:** B.Sc, M.Sc and Ph.D University of Ibadan. Nigeria

**Phone number:** 08035268612

**Area of specialization:** Botany, Phytopathology and Nematology

**Course description:** Principal characteristics of nematodes, morphology, position and outlines of classification of nematodes. Morphology and biology of important plant parasitic nematodes and their economic importance. Nematological techniques. General principles and methods of controlling nematodes.

**Course Objectives:** To ensure students know what nematodes are, anatomy, physiology, control, preservation of nematodes and detail structures of some nematodes

**Assessment**

Class attendance	5 marks
Tests and Assignments	35marks
Final Examination	60 marks

**LECTURE PLAN**

Weeks 1 -2 Taxonomy, Anatomy and physiology of nematodes

Weeks 3 -4 Reproduction and Digestion in nematodes

Weeks 5-6 Nervous system and excretory system

Weeks 7 -8 Sampling methods in nematology

Week 9 Preservation of nematodes

Weeks 10 - Histopathological studies

Week 11- 12 – Morphology and biology of important plant parasitic nematodes and their economic importance.

Weeks 13 -14 Various methods of controlling nematodes

Week 15 – Revision

## Tutorial questions

1. Discuss the biological control of nematodes.
2. Describe how you would carry out histopathological studies on a nematode infected yam tuber.
3. Discuss the role of Biotic influence on nematode population
4. Describe the following processes a). Elutriation b). centrifugation and C). Baerman funnel methods
5. Write short notes on the following a). Amphids b). Phasmids c). Ocelli d). genital papillae
6. Describe the excretory system of a nematode.
7. Describe the female reproductive system of a nematode.
8. Discuss extensively five cultural control methods of nematodes.
9. You are provided with a carrot sample infected with *Meloidogyne incognita* . Describe in details how you will extract the active and sedentary stages of the nematode.
10. You are provided with nematode infected yam tuber with dry rot symptoms. Describe in details how you would identify the nematodes responsible for the infection.

## Marking guide

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|--|----------------|
| 1. The biological control of nematodes discussed -   | 20 marks       |
| 2. How histopathological studies on a nematode infected yam tuber discussed in detail –  | 20 marks       |
| 3. The role of Biotic influence on nematode population discussed   | 20 marks       |
| 4. The following processes described a). Elutriation 7 marks b). centrifugation 7 marks and C). Baerman funnel methods 6 marks | Total 20 marks |
| 5. Write short notes on the following a). Amphids  | 5 marks        |
| b). Phasmids   | 5 marks        |
| c). Ocelli   | 5 marks        |
| d).genital papillae  | 5 marks        |
| Total  | 20 marks       |
| 6. The excretory system of a nematode described  | 20 marks       |
| 7. The female reproductive system of a nematode described with diagram   | 20 marks       |
| 8. Five cultural control methods of nematodes described each 4 marks   | 20 marks       |
| 9. Description of how all the life stages of <i>Meloidogyne incognita</i> will be extracted -                                  | 20 marks       |
| 10. Extraction of yam nematodes from yams described in details( pie pan, blending and sieving) etc                             | 20 marks       |