

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(6 Pages)

Reg. No:

Question. Code No : 25E01605

Sub Code : 24PSMB21

PG Degree - End Semester Examinations, April 2025

Second Semester

M.Sc. MICROBIOLOGY

SEC - Vermitechnology

(For those who joined in July 2024 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

1. What is the primary benefit of vermicomposting?
 - (a) Produces synthetic fertilizers
 - (b) Increases pests in soil
 - (c) Converts waste into nutrient-rich organic fertilizer

- (d) Reduces soil moisture
2. Which factor does NOT affect earthworm distribution in soil?
- (a) Soil moisture (b) Moon phase
(c) pH level (d) Organic matter content
3. *Eisenia fetida* belongs to which family?
- (a) Megascolecidae (b) Octochaetidae
(c) Lumbricidae (d) Glossoscolecidae
4. Which of the following affects the fecundity of earthworms?
- (a) Wind direction (b) Diet and temperature
(c) Noise level (d) Shape of compost bin
5. Which system uses pits and cement rings for composting?
- (a) Wedge system (b) Windrow system
(c) Container system (d) Stacked system
6. What is the role of earthworms in vermicomposting?
- (a) Pest control
(b) Breakdown of organic matter into humus
(c) Reduce temperature
(d) Attract predators
7. Which of the following is a pest in vermicomposting units?
- (a) Earthworms (b) Ants
(c) Bacteria (d) Fungi

families.

(OR)

(b) What is meant by the term “annual reproducer potential” in earthworms?

13. (a) List any two organic wastes commonly used in vermicomposting.

(OR)

(b) What are the basic phases involved in the vermicomposting process?

14. (a) Describe any one method used for the separation of earthworms.

(OR)

(b) Mention two techniques used for harvesting earthworms.

15. (a) What is vermiwash and how is it obtained?

(OR)

(b) Mention two agricultural applications of vermicompost.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Describe the criteria for selecting the right species of earthworms for vermicomposting.

(OR)

(b) Analyze the environmental factors influencing the distribution of earthworms in soil ecosystems.

17. (a) Describe in detail the anatomy and physiology of *Eisenia fetida* and its relevance in vermitechnology.

(OR)

(b) Compare the vital cycles of *Eisenia fetida* and *Eudrilus eugeniae* with reference to their reproductive potential and environmental limits

18. (a) Compare and contrast the major methods of vermicomposting such as windrow, wedge, container, and continuous flow systems.

(OR)

(b) Explain the mechanism of earthworm action in the conversion of organic waste into nutrient-rich compost.

19. (a) Discuss the common problems encountered in vermicomposting systems and the strategies used to manage them.

(OR)

(b) Describe various methods used for separating compost from earthworms and evaluate their efficiency.

20. (a) Explain the process of vermiwash production and its applications as a biofertilizer and pest repellent.

(OR)

(b) Analyze the economic and environmental benefits of vermiculture and its value-added products in sustainable development.