

(7 pages)

Reg. No. : .....

Code No. : 5927

Sub. Code : WMBSE 21

M.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2024.

Second Semester

Microbiology

Skill Enhancement Course — VERMITECHNOLOGY

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. Select Vermibiotechnologist from the following .

- (a) Dr. Sivathanu pillai
- (b) Dr. M.S. Swaminathan
- (c) Shri. Nammalvar
- (d) Dr. G.S. Vijayalakshmi

6. Which of the following species has a shorter body size?

- (a) Epifilis
- (b) Endogena
- (c) Aneciques
- (d) Eudrilus

7. Choose the correct statement(s)

- (a) Windrow composting consist of forming long, narrow rows or windrows roughly twice as wide as they are high and as long as space allows
- (b) Windrows are the most common method of composting
- (c) Windrows can be turned periodically or have perforated pipes underneath them to allow air flow
- (d) All the above

8. Vermicomposting involves

- (a) Windrows system
- (b) Wedge system
- (c) Container system
- (d) All the above

2. Vermitechnology involves

- (a) Production of vermicompost
- (b) Culturing of earthworms
- (c) Production of vermishash
- (d) All the above

3. Which of the following is not a major objective of vermicomposting?

- (a) To elevate the value of original material
- (b) To accelerate the rate of degradation
- (c) To obtain toxic products
- (d) To obtain products free of any pollutants

4. African nightcrawler is the other name of

- (a) *Eudrilus euginiae*
- (b) *Eudrilus simplex*
- (c) *Eudrilus palidus*
- (d) *Eudrilus sodeindei*

5. Earthworms identification involves \_\_\_\_\_

- (a) Number of segment from which dorsal pore begins
- (b) Type of setal arrangements (perichaetine or lumbricine) distances between the pairs and setal formula
- (c) Position of spermathecal pores, male pores, female pores and prostatic pores. Position of pores has to be observed in synchronization of setal arrangement
- (d) All the above

Page 2

Code No. : 5927

9. Kitchen wastes and animal excreta can be minimized most profitably via

- (a) Vermiculture
- (b) Biogas production
- (c) Direct usage as biofertilizers
- (d) Storing in underground storage tanks

10. Earth worms are NOT hunted by \_\_\_\_\_

- (a) Rats
- (b) Centipedes
- (c) Spiders
- (d) Butterflies

11. Choose the optimum temperature for earthworms

- (a) 1-10
- (b) 10-15
- (c) 25-37
- (d) Above 50

12. Which of the following chemicals is used for protecting vermi-bed from ants?

- (a) DDT
- (b) Griseofulvin
- (c) Chloramphericol
- (d) Chlorpyriophosphate

13. How much amount of vermicompost is to be applied / hectare for land reclamation?

- (a) 1 mt
- (b) 2.5 mt
- (c) 5 mt
- (d) 0 mt

Page 3

Code No. : 5927

Page 4

Code No. : 5927  
[P.T.O.]

14. Advantage of Vermipellet is/are \_\_\_\_\_

- (a) Easy transport
- (b) Easy storage
- (c) Prevention of pollution
- (d) All

15. Which of the following nutrients is abundantly found in worm castings?

- (a) Phosphorus            (b) Nitrogen
- (c) Calcium                (d) All of these

PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

16. (a) Showcase any two useful species employed in vermicomposting.

Or

(b) Add a short note on the factors affecting earthworm distribution and activity in soil.

17. (a) Add a note on *Eudrilus eugeniae*.

Or

(b) Climate change-Does it affect earthworms.

Page 5

Code No. : 5927

18. (a) Mention the process of animal manure composting.

Or

(b) What do you know about mesophilic phase?

19. (a) Can vermicompost satisfy plants nutritional demands? Justify.

Or

(b) Why don't we use too much of Citrus wastes in vermicomposting?

20. (a) Pour light on Vermitea.

Or

(b) Document about Vermimeal.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

21. (a) Write an essay on exogenous earthworms.

Or

(b) Enumerate desirable changes taking place in soil by earthworms.

Page 6

Code No. : 5927

22. (a) Discuss in detail about the biology and reproduction of *Eudrilus eugeniae*.

Or

(b) Count the limiting factors affecting reproduction of *Eisenia fetida*.

23. (a) Write an essay on the mechanism of earthworm action and factors affecting it.

Or

(b) Count the methods of vermicomposting and add a special note on tank method.

24. (a) What are different factors affecting vermicomposting process?

Or

(b) How do we harvest vermicompost? Explain in detail

25. (a) Write an essay on pelleted vermicompost and point out the precautions to be followed during storage of compost.

Or

(b) Document the significance of vermiwash.

Page 7

Code No. : 5927