

B.A. / B.Com. / B.Sc. (NEP) Semester-II
SEC45 - Microbiology - Vermicomposting

P. Pages : 3

Time : Two Hours



GUG/S/25/16436S

Max. Marks : 40

- 1.** Write a short answer question (each question carry 1 marks). **20**
- 1) What is vermicomposting?
 - 2) Name two benefits of vermicomposting for soil.
 - 3) Which species of earthworm is commonly used in vermicomposting?
 - 4) What factors should be considered when selecting earthworms for vermicomposting?
 - 5) How do vermicomposting earthworms help in nutrient cycling?
 - 6) What are the two main methods of vermicomposting?
 - 7) Name two organic waste materials suitable for vermicomposting.
 - 8) Why is moisture control important in vermicomposting?
 - 9) What is the ideal temperature range for vermicomposting?
 - 10) Name one household waste item that can be used in vermicomposting.
 - 11) What is the simplest technique for harvesting vermicompost?
 - 12) Why is sieving done after harvest of vermicompost?
 - 13) What is the ideal moisture content for storing vermicompost?
 - 14) Name one method of applying vermicompost in agriculture.
 - 15) What is nutrients does vermicompost add to the soil?
 - 16) Name on pest that can affect vermicomposting systems.
 - 17) Which test is used to measure the pH of vermicompost?
 - 18) Why is C:N ratio important in vermicompost quality?
 - 19) How often should a vermicompost bed be turned or aerated?
 - 20) What is a common challenge faced in vermicomposting?

- 1) Which of the following is a key benefit of vermicomposting in waste management?
 - a) Reduces the volume of organic waste
 - b) Produces nutrient-rich compost
 - c) Reduces greenhouse gas emissions
 - d) All of the above
- 2) What is a key characteristic of vermicomposting earthworms?
 - a) They feed exclusively on living plants
 - b) They thrive in dry and sandy soils
 - c) They consume and break down organic matter
 - d) They require high salt concentrations to survive
- 3) Why is vermicompost considered a superior organic fertilizer?
 - a) It contains synthetic chemicals for fast plant growth
 - b) It is rich in plant nutrients and beneficial microbes
 - c) It releases nutrients very slowly over decades
 - d) It reduces soil aeration and drainage
- 4) What type of waste is ideal for vermicomposting?
 - a) Plastic and metal scraps
 - b) Dairy and meat products
 - c) Fruit and vegetable peels
 - d) Glass and ceramics
- 5) What environmental condition is most suitable for vermicomposting earthworms?
 - a) Dry and hot temperatures above 40°C
 - b) Moist environments with temperatures around 20-30°C
 - c) Waterlogged and oxygen-poor conditions
 - d) Highly acidic soils with pH below 3
- 6) What is the ideal moisture content for efficient vermicomposting?
 - a) 10-20%
 - b) 30-40%
 - c) 60-80%
 - d) 90-100%
- 7) Which pH range is most suitable for vermicomposting?
 - a) 3.5-4.5 (Highly acidic)
 - b) 5.5-8.0 (Neutral to slightly alkaline)
 - c) 8.5-10.0 (Highly alkaline)
 - d) 1.0-2.0 (Extremely acidic)
- 8) Which of the following materials should be avoided in vermicomposting?
 - a) Coffee grounds and tea leaves
 - b) Citrus peels and onion skins
 - c) grass clippings and leaves
 - d) Dairy products and oily foods
- 9) How often should a vermicompost bed be turned or aerated?
 - a) Every day
 - b) Once every 2-3 days
 - c) Once a week
 - d) Rarely, only if the compost smells bad
- 10) What is the final step in the vermicomposting process?
 - a) Harvesting the compost and separating worms
 - b) Adding more fresh waste on top
 - c) Burning the compost to sterilize it
 - d) Drying the compost in direct sunlight for several days

- 11) Which technique involves manually removing the top layers of finished compost?
 - a) Pile method
 - b) Trench method
 - c) Hand-sorting method
 - d) Drum rotation method
- 12) What is an essential step in post-harvest processing of vermicompost?
 - a) Drying to reduce moisture content
 - b) Mixing with synthetic fertilizers
 - c) Boiling to kill microorganisms
 - d) Freezing to preserve nutrients
- 13) How should vermicompost be stored to maintain quality?
 - a) In an airtight plastic bag
 - b) In a dry, shaded, and well-ventilated area
 - c) In direct sunlight to prevent moisture build-up
 - d) In water to keep it moist
- 14) How frequently should vermicompost be applied to maintain soil health?
 - a) Once every 2-3 months
 - b) Every day
 - c) Only once per year
 - d) Never – it permanently enriches the soil
- 15) What is a good vermicompost application rate for home gardens?
 - a) 1-2 kg per square meter
 - b) 10-20 kg per square meter
 - c) 50-100 kg per square meter
 - d) 200-300 kg per square meter
- 16) Which worm species is most commonly used for vermicomposting due to its adaptability and efficiency?
 - a) *Lumbricus terrestris*
 - b) *Eisenia fetida*
 - c) *Perionyx excavatus*
 - d) *Dendrobaena veneta*
- 17) What is a simple solution to control foul odor in a vermicompost bin?
 - a) Add more nitrogen-rich material
 - b) Reduce worm population
 - c) Increase aeration and add dry bedding
 - d) Water the pile frequently
- 18) Which method is used to determine the nutrient content in vermicompost?
 - a) Atomic absorption spectroscopy
 - b) Flame photometry
 - c) Kjeldahl method for nitrogen
 - d) All of the above
- 19) Which parameter is commonly tested to assess vermicompost maturity?
 - a) C:N ratio
 - b) Moisture content
 - c) Earthworm population
 - d) pH
- 20) What is a common biological contaminant that can affect vermicompost quality?
 - a) Nematodes
 - b) Pathogenic bacteria
 - c) Fungal spores
 - d) All of the above
