## STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086 (For candidates admitted from the academic year 2016 – 2017 & thereafter)

### SUBJECT CODE: 16VF/VM/WM66

### B.Voc. DEGREE EXAMINATION, APRIL 2023 FOOD PROCESSING AND QUALITY CONTROL SIXTH SEMESTER

COURSE : MAJOR CORE

PAPER : WASTE MANAGEMENT IN FOOD INDUSTRY

TIME : 5 HOURS

MAX. MARKS: 100

(Theory: 50 marks + Practical: 50 marks)

(20X1 = 20)

### **SECTION - A**

#### Answer all the questions:

## I Choose the correct answer:

- The byproduct of marine processing is \_\_\_\_\_\_.
   a) FPC's b) Collagen c) EFA d) all the above
- 2. Waste management in food processing unit is essential \_\_\_\_\_\_\_\_\_a) to increase popularityb) to be an alternate method for disposal.
  - c) to gain profits d) to prevent causing any damage to environment
- 3. ISO 140001 is series of \_\_\_\_\_\_ standards.a) Food safety b) Quality control
  - c) Process control d) Environmental management system
- 4. Which one of the following is involved in pre treatment of waste
- a) Trickling filter
  b) activated sludge
  c) Sedimentation
  d) all the above

  5. Which among the following is not required for survival of marine life.

  a) Dissolved oxygen
  b) Carbon dioxide
  c) organic matter
  d) Nutrients.

# II Fill in the blanks:

- 6. The organism involved in vermicomposting is \_\_\_\_\_.
- 7. To save the environment from toxic effect proper \_\_\_\_\_\_ is important.
- 8. The organism that indicates fecal pollution is \_\_\_\_\_.
- 9. Oil cakes is the byproduct obtained from \_\_\_\_\_
- 10. The destabilization of colloidal waste by addition of chemicals is known as \_\_\_\_\_\_.

### **III State whether True or False:**

- 11. Lactobacillus form a part of the microflora of waste waters released from dairy industries.
- 12. The construction of an ETP plant is mandatory for all food manufacturing units.
- 13. The EMS is based on a model of TQM system.

14. Vermicomposting is an ideal technique for managing all kinds of food wastes

15. Waste generated from marine and livestock processing units are rich in ammonia.

# IV. EXPAND THE FOLLOWING

- 16. BOD
- 17. EPA
- 18. ISO
- 19. ETP
- 20. TQM

## **SECTION - B**

### Answer any SIX questions:

- 21. How can wastes generated from fruit and vegetable processing be utilized effectively.
- 22. Difference between BOD and COD?
- 23. Explain the necessity for waste utilization produce from food processing industries.
- 24. What do we do with trickling filters?
- 25. List out any 3 importance of waste management.
- 26. What is vermicomposting?
- 27. How do you test the presence of Phosphorus in the effluent?
- 28. What is EPA?
- 29. What are the byproducts obtained from dairy industries?
- 30. List the types of waste generated from a food industry.

### **SECTION - C**

### Answer any TWO questions:

- 31. Explain characterization and utilization of by product generated from cereals, pulses and oil seeds.
- 32. What is ISO 14000? How is it implemented in a food industry?
- 33. What are the typical biological processes for wastewater treatment?
- 34. How are wastes from poultry and marine processing industries utilized?

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 $(2 \ge 6 = 12)$ 

## $(6 \times 3 = 18)$