

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E01616

Course Code: 24PSMB42

PG Degree - End Semester Examinations, April 2026

Fourth Semester

M.Sc., MICROBIOLOGY

Microbial Quality Control and Testing

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. Which of the following is a key principle of Continuous Quality
K:1 Improvement?
- (a) Top-down decision making (b) Departmental silos making
- (c) Data-driven decision making (d) One-time improvements making
- CO:1 2. Quality Assurance is considered a _____ tool.
K:2
- (a) Corrective (b) Product-oriented
- (c) Managerial (d) Reactive
- CO:1 3. Regarding BOD of water, choose the INCORRECT value.
K:1
- (a) 0-2 ppm: Very clean, suitable for drinking.
- (b) 3-5 ppm: Moderately clean, may require treatment.
- (c) 6-9 ppm: Polluted, safe for consumption is questionable.
- (d) >100 ppm: Safe to drink
- CO:1 4. Regarding COD, Significant pollution is indicated by the organic
K:2 load of
- (a) >10 ppm (b) >20 ppm
- (c) >100 ppm (d) >200 ppm
- CO:1 5. What is the normal dose of chlorine during post-chlorination for
K:1 disinfection?
- (a) 0.1 - 0.2 ppm (mg/L) (b) 0.5 - 3 ppm (mg/L)
- (c) 1 - 2 ppm (mg/L) (d) 3 - 7 ppm (mg/L)

- CO:1 K:2 6. Based on BIS Standard, which one of the following parameters is wrong?
(a) pH (6.5–8.5) (b) Turbidity (1–5 NTU)
(c) Total dissolved solids (TDS < 500 mg/L) (d) Fluoride (10–15 mg/L).
- CO:1 K:1 7. The process of burning municipal solid waste at high temperatures in a furnace is known as _____
(a) Landfilling (b) Composting
(c) Incineration (d) Shredding
- CO:1 K:2 8. Select the media used for the evaluation of bacteria in air.
(a) Plate Count Agar (b) Tryptic Soy Agar
(c) Both A and B (d) Rose Bengal Agar
- CO:1 K:1 9. Crystalline analysis in food is done by _____ technique.
(a) X Ray Diffraction Study (b) FTIR
(c) AAS (d) HPLC
- CO:1 K:2 10. What is the primary objective of food quality control?
(a) To increase the price of food products (b) To reduce the shelf life of food
(c) To protect the consumer (d) To change the color of food

PART - B (5 X 5 = 25 Marks)

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

Answer should not exceed 250 words.

- CO:2 K:3 11. (a) Specify the importance of quality.

(OR)

(b) Identify the importance of post analytical techniques.

- CO:3 K:4 12. (a) Examine the characters of effluent released from industries.

(OR)

(b) Inspect the types of waste water treatment plants.

- CO:2 K:3 13. (a) Find out the properties of indicators showing fecal contamination in water.

(OR)

(b) Recognize the principle and applications of membrane filtration technique.

CO:3 14. (a) Analyze the working principle and uses of HEPA.

K:4

(OR)

(b) Inspect the significance of bioaerosols.

CO:2 15. (a) Organize the role of X ray on food quality management.

K:3

(OR)

(b) Construct the features of PPE.

PART - C (5 X 8 = 40 Marks)

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

Answer should not exceed 600 words.

CO:2 16. (a) Write the types and importance of quality management systems currently in use.

K:3

(OR)

(b) Show the importance of preanalytical techniques with reference to quality.

CO:3 17. (a) Judge the strategies employed to manage effluent of paper mill origin from causing pollution?

K:4

(OR)

(b) Criticize deeply on preventive measures of water borne diseases.

CO:4 18. (a) Explain in detail about water borne diseases.

K:5

(OR)

(b) Discover the principle, procedure and limitations of MPN test with a neat diagram.

CO:5 19. (a) Distill out the commonly used techniques employed for microbial air quality assessment with neat diagrams.

K:6

(OR)

(b) Categorize the biology, prevention, treatment and control measures of the viral disease of China origin which struck the entire world few years back.

CO:2 20. (a) Transfer the practices followed to maintain quality in food production sectors?

K:3

(OR)

(b) Sketch in detail the IoT sensors in connection with quality management.