ST–C–1016 **STCS–11**

SHORT TERM EXAMINATION – FEBRUARY 2025.

Cold Storage Management

COLD STORAGE MANAGEMENT – THEORY

Time : 3 hours Maximum marks : 70

SECTION A — (20 × 2 = 40 marks)

Answer ALL questions.

1. What is the primary purpose of cold storage in food management?

   (a) To enhance food flavor

   (b) To prolong the shelf life of products

   (c) To make food products more appealing

   (d) To reduce the cost of production

2. Which temperature range is commonly used for cold storage of perishable food items?

   (a) 0°C to 5°C (b) –10°C to 0°C

   (c) 10°C to 15°C (d) –18°C to –25°C

3. What is the role of humidity control in cold storage?

(a) To prevent food from freezing

(b) To maintain product freshness

(c) To reduce storage space

(d) To increase energy efficiency

4. What is the most commonly used refrigerant in cold storage facilities?

(a) Ammonia

(b) Chlorofluorocarbons (CFCs)

(c) Carbon dioxide

(d) Propane

5. Which of the following is a key factor in preventing product spoilage in cold storage?

(a) Proper air circulation

(b) Frequent temperature changes

(c) Overcrowding of storage areas

(d) High storage temperature

6. What is the purpose of temperature monitoring in cold storage?

(a) To ensure energy efficiency

(b) To track inventory

(c) To prevent product spoilage

(d) To reduce operational costs

7. Which food products require a colder temperature for cold storage?

(a) Fruits and vegetables

(b) Dairy products

(c) Frozen meats

(d) Bakery goods

8. What is the ideal temperature range for frozen food storage?

(a) –18°C to –25°C (b) –5°C to 0°C

(c) 0°C to 5°C (d) 10°C to 15°C

9. What is a common method used to preserve food in cold storage?

(a) Freezing (b) Salting

(c) Drying (d) Canning

10. What is the purpose of a cold storage racking system?

(a) To increase storage space efficiency

(b) To improve food flavor

(c) To reduce food wastage

(d) To eliminate the need for temperature control

11. What does FIFO stand for in cold storage management?

(a) Fast In, Fast Out

(b) First In, First Out

(c) Fixed In, Fixed Out

(d) Freeze In, Freeze Out

12. What is a potential risk of improper cold storage?

(a) Increased product shelf life

(b) Increased nutritional value

(c) Growth of harmful bacteria

(d) Reduced energy consumption

13. Which of the following is a key factor in cold storage management to reduce energy consumption?

(a) Regular cleaning of cooling units

(b) Using lower-quality insulation

(c) High humidity control

(d) Storing hot products in the storage unit

14. What does a cold storage facility typically use to maintain temperature control?

(a) Insulation and refrigeration systems

(b) Exhaust fans

(c) UV lights

(d) Heat exchangers

15. What is the term for storing food products at temperatures just above freezing to extend their freshness?

(a) Freezing

(b) Refrigeration

(c) Drying

(d) Pasteurization

16. What is a benefit of using blast freezing in cold storage?

(a) It prevents ice crystals from forming in food

(b) It improves food taste

(c) It speeds up the freezing process

(d) It reduces energy use

17. Why is air circulation important in cold storage?

(a) To distribute humidity evenly

(b) to ensure that temperature is consistent throughout the storage

(c) To help cool down products faster

(d) To increase food flavor

18. What should be avoided in a cold storage facility to prevent contamination of products?

(a) Proper sanitation

(b) Air filtration systems

(c) Mixing different food types

(d) Maintaining a steady temperature

19. What is the typical shelf life extension of products stored in cold storage?

(a) 10-20%

(b) 50-100%

(c) 200-300%

(d) 500%+

20. Which type of food requires cold storage to prevent dehydration?

(a) Fresh fruits

(b) Frozen vegetables

(c) Canned goods

(d) Fresh meats

SECTION B — (5 × 6 = 30 marks)

Answer any FIVE of the following questions.

21. How does a cold room work?

22. Mention the types of cold rooms.

23. How a cold storage plant constructed?

24. What is the heat load factors normally considered in a Cold Storage design?

25. How do you prevent contamination in cold storage?

26. List out the tips on how to keep storage clean at all times.

27. What are the benefits of using a cold storage management system (CMS)?

28. What types of products are typically stored in cold storage?

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ST-C-1017 **STCS–P1**

SHORT TERM EXAMINATION FEBRUARY 2025.

Cold Storage Management

COLD STORAGE MAINTENANCE AND SERVICING - PRACTICAL

Time : 3 hours Maximum marks : 70

Answer any TWO questions.

(2 × 35 = 70)

1. Discuss the routine maintenance of commercial refrigeration system.

2. What are the major safety measures for cooling tower maintenance?

3. How do you check whether the cold storage unit operating at the correct temperature?

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