

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.Tech. (Dairy Technology)

Semester	: V (V Dean)	Academic Year	: 2024-2025
Course No.	: DT - 508	Course Title	: Packaging of Dairy Products
Credits	: (2+1=3)	Total Marks	: 50
Day & Date	: Friday, 25/04/2025	Time	: 2.00 hrs.

- Note:**
- 1) All questions from **Section 'A'** are compulsory.
 - 2) Solve **Any Three** questions from **Section 'B'**.
 - 3) Draw neat and well labeled diagram wherever necessary.

SECTION - 'A'

- Q. 1 A) Define the following. (05)
- i) Passivation
 - ii) Waste
 - iii) Lamination
 - iv) Pulping
 - v) Aluminum foil
- B) Give two examples of the following. (05)
- i) Sterilizing agent used in aseptic packaging
 - ii) Secondary package
 - iii) Paper
 - iv) Gases used in MAP
 - v) Materials used in glass
- Q. 2 A) State whether True or False. If false, rewrite the statement after making necessary corrections in the underlined word. (05)
- i) Paperboard has lower thickness than cardboard.
 - ii) In dipping process, the concentration of H₂O₂ solution is 70 %.
 - iii) The thickness of LDPE is 52-60 µm for packaging of liquid milk.
 - iv) Kraft paper is generally used for packaging of dried milk.
 - v) Virgin pulp is naturally red in colour.
- B) Choose the most appropriate answer from the option given below. (05)
- i) Packing generally used as secondary package for dairy products
 - a) Cardboard boxes
 - b) Aluminum foil
 - c) Tin cans
 - d) None of these.
 - ii) The adhesive which can be used in forming laminates by adhesion is
 - a) Starch
 - b) Polyurethane
 - c) Casein
 - d) All of these
 - iii) Which of the following material was first used as starch based cushioning material?
 - a) Wheat
 - b) Corn
 - c) Soya
 - d) None of these

(P.T.O.)

- iv) Dole process is
- a) Aseptic carrying systems for acid foods
 - b) Aseptic carrying systems for highly acidic foods
 - c) Aseptic carrying systems for low acidic foods
 - d) None of these
- v) The thickness of different layers in the carton is
- a) 0.01 μm
 - b) 0.02 μm
 - c) 0.04 μm
 - d) 0.05 μm

SECTION – 'B'

- Q. 3 A) Discuss the status of packaging of dairy and food products industry in India. (05)
B) What is PET? Discuss in brief its characteristics and method of molding. (05)
- Q. 4 A) Enumerates the different characteristics of paper and describe in short various forms of paper used in packing of market milk. (05)
B) Explain in detail the paper making process with all technical details. (05)
- Q. 5 A) What is retort pouch? Discuss its advantages and applications over metal packaging material. (03)
B) Define edible packaging and state its advantages and disadvantages. (03)
C) What are laminates? Write the various types of laminates along with its usage and advantages. (04)
- Q. 6 Write short notes on following.
A) Aseptic packaging (03)
B) Eco-friendly packaging (03)
C) Modified Atmosphere packaging. (04)
- Q. 7 Discuss the general considerations for choice of packaging materials required for packaging of the following. (10)
A) Milk powder
B) Butter
C) Ice Cream & Frozen Desserts
D) Cheese
