

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMEISTER END THEORY EXAMINATION, B.TECH. (D.T.) Degree Course 2017-18

Semester	: IV (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DT-408	Course Title	: Packaging of Dairy Products
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Wednesday, 13.06.2018	Time	: 15.00 to 17.00 Hrs.

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

SECTION – 'A'

Q. 1 A) Choose the most appropriate answer from the options given below. (05)

- i) The packing generally used as secondary package in dairy
 - a) Card board boxes
 - b) Tin cans
 - c) Aluminum foil
 - d) None of these
- ii) Ratio of LDPE:LLDPE in packing material used for pasteurized milk pouch
 - a) 5:1 to 4:1
 - b) 1:5 to 1:4
 - c) 1:3 to 1:4
 - d) 3:1 to 4:1
- iii) Sulphite paper is used for making
 - a) Vegetable parchment paper
 - b) Kraft paper
 - c) Glossing
 - d) None of these
- iv) The barrier film used in Tetra brick packaging material is
 - a) LDPE
 - b) HDPE
 - c) Aluminum foil
 - d) None of these
- v) The recommended packaging for sterilized cream
 - a) Tin can
 - b) Plastic tube
 - c) Polystyrene cup
 - d) None of these

B) Answer in one line. (05)

- i) What is the thickness of aluminum foil that is impermeable to moist gases, light and microbes?
- ii) State the thickness of paper board.
- iii) What is the softening point of HDPE?
- iv) What is the range of density of LDPE?
- v) What is Polyvinylidene co-polymer called as?

Q. 2 A) Define the following. (05)

- i) Pulping
- ii) Passivation
- iii) Asphalted paper
- iv) Twist wrap
- v) Chip board

(P.T.O.)

- B) State "True or False", If False, rewrite the statement after making necessary (05) corrections in underline word(s).
- i) First synthetic plastic is Cellulose nitrate.
 - ii) Paper of commercially pure aluminum (Type 100 and 1050) is used for the manufacture of foil and extruded container.
 - iii) The concentration of H_2O_2 used for sterilization of packing material used in aseptic packaging is 60%.
 - iv) An example of non-returnable package form is Milk sachet.
 - v) The plastic film used as shrinkable wrap is PVC.

SECTION – 'B'

- Q. 3 What is glass, write its advantages and disadvantages also explain the closures and closure lining materials used for glass bottles. (06)
- Q. 4 Describe in detail about the waste disposal methods of packaging materials? (06)
- Q. 5 Discuss in detail forms of food packaging? (06)
- Q. 6 Write in short about the following.
- a) Tin free steel (02)
 - b) Retort pouches (02)
 - c) Packages for indigenous products. (02)
- Q. 7 Write about the packaging materials used for following dairy products.
- a) Dried milk (02)
 - b) Pasteurized milk (02)
 - c) Fermented milk products (02)
- Q. 8
- a) Write about eco friendly packaging. (03)
 - b) Write about the aseptic packaging. (03)
- Q. 9 Write short notes on the following.
- a) What is mean by vacuum packaging? (02)
 - b) Write a brief note on coding and labeling of food package? (04)
