

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

Semester	: III (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DT-303	Course Title	: Fat-Rich Dairy Products
Credits	: 3+1=4	Total Marks	: 50
Day & Date	: Tuesday, 02.01.2018	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) All questions carry equal marks.
 - 4) Draw neat and well labelled diagram wherever necessary.

SECTION - 'A'

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

- i) Ghee marketed in India bears seal of
 - a) FPO
 - b) BIS
 - c) AGMARK
 - d) FAO
- ii) The type of emulsion in plastic cream is
 - a) Oil-in-water
 - b) Water-in-oil
 - c) Water-in-water
 - d) None of the above
- iii) Which of the following colourant used in butter making has both colouring ability and nutritional value?
 - a) Alpha carotene
 - b) Beta carotene
 - c) Kappa carotene
 - d) Gama carotene
- iv) 'Bad cholesterol' is also referred to as
 - a) HDL cholesterol
 - b) ADL cholesterol
 - c) BDL cholesterol
 - d) LDL cholesterol
- v) In a 'hermetic' cream separator, the milk is fed from
 - a) Top
 - b) Peripheral
 - c) Bottom
 - d) Tangential

B) Give two examples of following (05)

- i) Market cream
- ii) Colours permitted to be added in table butter.
- iii) Methods of ghee making
- iv) Classes of fat spreads
- v) Defects in cream

Q. 2 A) Write definition of the following in one line. (05)

- i) Skimming efficiency
- ii) Churning
- iii) Neutralization of cream
- iv) Ageing of cream
- v) Ghee clarifier

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections in underlined word. (05)
- i) The function of stabilizer in low fat spread is to prevent syneresis.
 - ii) Antioxidants in ghee accelerate lipid oxidation reaction in ghee.
 - iii) Fat recovery in ghee prepared by creamery butter method is around 80%.
 - iv) Theoretically, maximum possible overrun in butter is 25%.
 - v) Desired acidity in cultured/sour cream should be around 0.6% lactic acid.

SECTION – 'B'

- Q. 3. List the ingredients required to make Low fat dairy spread. Discuss the role of 'protein sources' and 'flavouring' in such products manufacture. (06)
- Q. 4 Discuss continuous method of ghee making along with diagram. (06)
- Q. 5 List various fat rich dairy products, and discuss status of fat rich dairy products in India. (06)
- Q. 6 Give the significance of the following steps in relation to 'butter' making and 'quality of resultant butter'
- a) Standardization of fat content of cream. (02)
 - b) Churning temperature. (02)
 - c) Working of butter. (02)
- Q. 7
- a) Write the flow chart for manufacture of whipping cream with all technical details. (03)
 - b) List theories of churning. Discuss any one. (03)
- Q. 8
- a) Write a short note on sterilized cream. (02)
 - b) List common defects observed in butter. Discuss Grittiness in table butter. (02)
 - c) Differentiate between ghee made by Direct cream method vs. creamery butter method. (02)
- Q. 9
- a) Role of milk fat in different milk products. (02)
 - b) Discuss factors affecting spreadability of butter. (04)
