

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

Semester	: IV (V Dean)	Academic Year	: 2017-2018
Course No.	: DT-405	Course Title	: Cheese Technology
Credits	: 3+2=5	Total Marks	: 50
Day & Date	: Monday, 18.06.2018	Time	: 15.00 to 17.00 Hrs.

- Note :** 1) All questions from **Section 'A'** are compulsory.  
2) Solve **Any Three** questions from **Section 'B'**.  
3) 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) The weight loss during ripening of cheese may be caused by .....

- a) Exudation of fat                      b) Loss of CO<sub>2</sub>  
c) Breakdown of protein              d) None of These

ii) Butyric acid bacteria responsible for ..... defect in cheese.

- a) Early blowing                      b) Both a) and c)  
c) Late blowing                      d) None of These

iii) The over salting in cheese causes .....

- a) Open texture                      b) Close texture  
c) Pasty, weak body                  d) Flavor of cheese is abnormal

iv) The glycomacropeptide released during rennet action is a fragment of k-casein .....

- a) f(105-169)                      b) f(106-169)  
c) f(107-169)                      d) f(104-169)

v) Chymosin activity is reported to be optimum at pH in the range of .....

- a) 4.5                                      b) 5.5-6.0  
c) 6.5-6.7                              d) 5.0-5.4

B) Define the followings. (05)

- i) Process Cheese Spread  
ii) Cheese yield  
iii) Water activity  
iv) Creamed Cottage cheese  
v) Bactofugation

Q. 2 A) Give reasons for the following. (05)

- i) Why whey proteins are also incorporated in cheese?  
ii) Why inhibitory salts are employed during cheese making?  
iii) Why sheep milk is preferred for manufacturing Roquefort cheese?  
iv) Why pH is important for manufacturing cheese?  
v) Why antibiotic milk is not suitable for manufacturing cheese?

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making (05)  
necessary corrections in underlined word.
- i) Cheese with a firm, hard, tough and somewhat elastic consistency is called Crumbly.
  - ii) Cheese which is ready for consumption shortly after manufacture called as ripened cheese.
  - iii) The calories obtained from 100 gm. cheese is 100.
  - iv) The optimum pH for rennin action on milk is 2.0 and for pepsin it is 5.4.
  - v) The activity of chymosin increases with an increase in pH.

## SECTION - 'B'

- Q. 3 A) Enlist the defects in cheddar cheese. Explain in details defects related to flavour (05)  
and body and texture in cheddar cheese.
- B) Define the term processed cheese according to FSSR (2011). Discuss the (05)  
preparation of processed cheese.
- Q. 4 A) What is the role of pressing in cheese making? Discuss the factors affecting on (05)  
cheese yield.
- B) Define the term accelerated ripening. Explain in details methods of accelerated (05)  
ripening.
- Q. 5 Write notes on.
- A) Enzyme modified cheese. (03)
  - B) Process modifications in buffalo milk for cheese making. (03)
  - C) Mechanization and automation in cheese industry. (04)
- Q. 6 Enlighten the followings.
- A) Chemistry of rennet action on milk. (03)
  - B) Importance of ultrafiltration techniques in cheese making (03)
  - C) Cheese additives and preservatives. (04)
- Q. 7 Discuss the various pre-treatment given to milk for manufacturing the cheese. (10)

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