

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMESTER END THEORY EXAMINATION, B.Tech. (D.T.) degree Course 2016-17**

<b>Semester</b>	<b>: VII (New Syllabus)</b>	<b>Academic Year</b>	<b>: 2016-17</b>
<b>Course No.</b>	<b>: DE-713</b>	<b>Course Title</b>	<b>: Dairy Plant Design and Layout</b>
<b>Credits</b>	<b>: 2+1=3</b>	<b>Total Marks</b>	<b>: 50</b>
<b>Day &amp; Date</b>	<b>: Saturday, 07/01/2017</b>	<b>Time</b>	<b>: 11.00 to 13.00 Hrs.</b>

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
  - 2) Solve **Any Five** 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) ..... is the actual place where the plant is erected.
  - a) Site
  - b) Location
  - c) Topography
  - d) None of the above
- ii) Milk storage capacity of dairy plant should be equal to the .....
  - a) One days milk collection
  - b) Two days milk capacity
  - c) Five days milk collection
  - d) None of the above
- iii) ..... is known as the heart of dairy plant.
  - a) Fluid milk section
  - b) Condensed and dried milk section
  - c) Ghee section
  - d) Butter section
- iv) ..... tile is both acid and alkali proof and hence used in quality assurance laboratory.
  - a) Mandana stone
  - b) Kota
  - c) Chequered tile
  - d) Plain concrete
- v) Recommended slope in cold store is .....
  - a) 1:80
  - b) 2:40
  - c) 12:100
  - d) 2:10

B) Do as directed. (05)

- i) Explain the term 'Topography'
- ii) Which location will be best for establishing a dairy product manufacturing plant?
- iii) Which layout is preferred for ice cream factory?
- iv) Why the insulating materials are not provided in the floor of cold store?
- v) Name the chart used in determination of capacity of utility generating equipment.

Q. 2 A) Give one word for the following: (05)

- i) Extra space kept around the equipment to operate the equipment efficiently and safely.
- ii) Device, which allows condensate to pass but retains the steam.
- iii) Place/section in the dairy where milk is received.
- iv) Blueprint showing arrangement of different sections in the dairy along with equipments in each section.
- v) A tile having glass like smooth and shiny surface.

**(P.T.O.)**

- B) State True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) Boiler room should be located near the quality assurance laboratory.
  - ii) Chequered tile is example of non-slippery tile.
  - iii) Milk storage tank should be placed in the ground floor of dairy.
  - iv) The capacity of any utility generating equipment should be always equal to actual peak load demand of utility.
  - v) Height of RMRD platform should be more than 5 feet.

### SECTION –‘B’

- Q. 3 With the help of neat and well labeled diagrams explain the various layouts of dairy plant. (06)
- Q. 4 Discuss the general points to be considered in designing of dairy plant layout. (06)
- Q. 5 Explain floors of different section of dairy and drainage system of dairy in detail. (06)
- Q. 6 Write short note on the following:
- a) Illumination in dairy plants. (02)
  - b) Arrangement of equipments in the section. (02)
  - c) Material handling in dairy (02)
- Q. 7
- a) Classify the dairy plants. (03)
  - b) Draw the layout of small scale fluid milk plant. (03)
- Q. 8
- a) Enlist the different utilities required for running a dairy plant. (02)
  - b) Discuss the space requirements for dairy plants. (02)
  - c) Why ETP plant is placed away from the main processing section. (02)
- Q. 9
- a) What do you understand by the term ‘process scheduling’? (02)
  - b) Give the guidelines for arrangement of different sections in dairy plant. (04)

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