CLASS: IMSC   SEMESTER : III
BRANCH: FOOD TECHNOLOGY   SESSION : MO/19

SUBJECT: FT203 FOOD MICROBIOLOGY

TIME: 3 HOURS   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)   State the differences between bacteria and fungi. Differentiate between prokaryotic and eukaryotic   [5]
         cell using respective diagrams.
Q.1(b)   List the differences between spores and vegetative cells. Describe the various stages of bacterial growth   [5]
         curve with diagram.

Q.2(a)   Explain the intrinsic factors of microbial growth (All five). Mention all associated mathematical   [5]
         equation(s).
Q.2(b)   Describe all the parameters that quantify microbial destruction. Derive the expression for D-value and   [5]
         draw a relationship between lethal rate and z-value.

Q.3(a)   Illustrate the various ways in which shelf-life of milk can be enhanced. State with suitable justification   [5]
         which method of preservation is the best?
Q.3(b)   Demonstrate in detail the phenomena of DFD and PSE meat mentioning the associated carbohydrate   [5]
         metabolisms.

Q.4(a)   Draw a flow diagram to elucidate yoghurt fermentation. Explain yoghurt processing with all associated   [5]
         parameters (temperature, pH and acidity) and micro-organisms used.
Q.4(b)   Outline the two requirements of milk that are essential to generate good quality of fermented products   [5]
         from it. What is protoco-operation and explain butter preservation by compartmentalization.

Q.5(a)   Recommend all possible control points of a poultry meat processing unit with the help of a process flow   [5]
         diagram. Use a decision tree and establish critical control points from and among the control points
         generated.
Q.5(b)   Justify the need for usage of hops and kilning of malt during beer production. What happens when wort   [5]
         is boiled with hops?

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