

**POST GRADUATE DIPLOMA IN FOOD SAFETY
AND QUALITY MANAGEMENT (PGDFSQM)**

Term-End Examination

June, 2013

MVPI-001 : FOOD MICROBIOLOGY

Time : 2 hours

Maximum Marks : 50

Note : Attempt any five questions. All questions carry equal marks.

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1. Define the following : 5x2=10
 - (a) Industrial Microbiology
 - (b) Molds
 - (c) Food Contamination
 - (d) Thermoduric micro-organisms
 - (e) Complex media

 2. Explain the following : 2x5=10
 - (a) Types of food fermentations
 - (b) Microbiological Media

 3. Discuss the contamination and spoilage of foods by micro-organisms. 10

 4. Fill in the blanks : 1x10=10
 - (a) _____ require high level of salt to grow.
 - (b) To keep microbes out is called _____.
 - (c) _____ are multicellular, filamentous micro-organisms.
 - (d) _____ are responsible for causing spoilage of honey, sugar syrup, jam etc.

- (e) _____ is a measure of acidity or alkalinity of a solution.
- (f) Natural and manmade substances added to food for an intended purpose are _____.
- (g) The radiations used in laminar flow bench are _____.
- (h) The bacteria which are stained pink in gm staining are called _____.
- (i) A temperature of 121°C for 15 minutes is used for sterilization in an _____ .
- (j) Use of heat is a _____ method of sterilization.
5. (a) Briefly describe the intrinsic factors responsible for spoilage of foods. 5
- (b) Highlight the need for rapid detection techniques for micro-organisms. 5
6. (a) What is the principle behind Direct Microscopic examination of foods ? 3
- (b) Comment on 'Dye Reduction tests' done for determining microbiological quality of milk. 5
- (c) In a 'standard plate count' method, if plates at 10^{-4} dilution are having 50 and 60 colonies calculate c.f.u/ml 2
7. (a) What do you know about the 'Polymerase Chain Reaction' used in Rapid Detection method for micro-organisms ? 5
- (b) Comment on the Food Borne viral diseases. 5
8. Write short notes on **any two** : 2x5=10
- (a) Technique of gram staining in microbiology.
- (b) Important mold genera in foods.
- (c) Detection and enumeration of spoilage micro-organisms.