

00404

**POST GRADUATE DIPLOMA IN FOOD  
SCIENCE AND TECHNOLOGY (PGDFT)**

**Term-End Examination**

**December, 2017**

**MFT-002 : FOOD MICROBIOLOGY**

*Time : 3 hours*

*Maximum Marks : 70*

---

*Note : Question no. 1 is compulsory. Attempt five questions  
in all.*

---

---

1. (a) Select the right answer. 1x5=5
- (i) Which of the following statements are true about chemical preservatives ?
- (A) Microbiocidal or microstatic agents.
  - (B) Chemical preservatives are often hazardous to human beings.
  - (C) Sodium benzoate is widely used as a preservative.
  - (D) All of these
- (ii) Most of the spoilage bacteria grow at :
- (A) acidic pH
  - (B) alkaline pH
  - (C) Neutral pH
  - (D) any of the pH

- (iii) The time temperature combination for HTST pasteurization of 71.1°C for 15 sec is selected on the basis of :
- (A) Mycobacterium tuberculosis
  - (B) E. Coli
  - (C) B. Subtiles
  - (D) C. Botulinum
- (iv) What is the known bioactive component in fermented milk yoghurt ?
- (A) Lycopene
  - (B) Flavonoids
  - (C) Lactobacillus species
  - (D) Streptococcus salivarius
- (v) Which of the following statements are true regarding staphylococcus food poisoning ?
- (A) is an enterotoxin
  - (B) causes gastroenteritis
  - (C) is produced by staphylococcus aureus
  - (D) all of the above

(b) Define the following :

1x5=5

- (i) Probiotic food
- (ii) UHT treatment
- (iii) Mycotoxin
- (iv) Flat sour spoilage
- (v) Putrefaction

2. Write short notes on the following : 3x5=15
- (a) Pasteurization
  - (b) Starter culture
  - (c) Bacteriocins
  - (d) Mushroom as cottage industry
  - (e) Sources of bacterial contamination in food
3. Give a brief account of the following : 3x5=15
- (a) Extrinsic factors affecting microbial growth
  - (b) Food borne infection due to bacteria
  - (c) Modified atmospheric packaging of fruits and vegetables
  - (d) Fermented Dairy Products
  - (e) Spoilage of meat
4. (a) Write in details regarding various phases of bacterial growth cycle with graph indicating various phases. 8
- (b) What are fermented foods ? Describe different types of fermentation. What are the benefits of fermented foods to consumers ? 1+3+3
5. (a) Give an account of spoilage of fruits and vegetables by microorganisms. 5+5  
Comment on the spoilage and preservation of cereal products.
- (b) Differentiate between food infection and intoxication. Write a note on emerging food pathogens. 2+3
6. (a) Enlist the rapid detection techniques for food microorganisms. Explain any two techniques in detail. 2+8
- (b) Write about MPN technique. 5

7. (a) Comment on the role of gamma radiation and chemical preservatives in controlling microorganisms. 5
- (b) Explain the methods for identification of staphylococcus aureus and clostridium perfringens in foods. 10
-