Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.TECH/FT(N)/SEM-3/FT-302/2012-13

2012

FOOD MICROBIOLOGY

Time Allotted : 3 Hours *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : 10 × 1 = 10

   i) Binomial nomenclature is given by

      a) Antony Von Leeuenhocu

      b) Carolus Linnaeus

      c) Robert Hook

      d) None of these.

   ii) Microbes which only survive in absence of oxygen is called as

      a) Facultative aerobes

      b) Facultative anaerobes

      c) Obligate aerobes

      d) Obligates anaerobes

iii) Botulism is caused by a species belonging to the genus

a) *clostridium* b) *salmonella*

c) *vibrio* d) *staphylococcus*.

iv) Micro organism which survive after pasteurization of milk is called as

a) Thermophile b) Mesophile

c) Psychrophile d) Thermoduric.

v) The final electron acceptor in aerobic respiration is

a) H_2 b) O_2

c) NO_3^- d) none of these.

vi) Gram staining is an example of

a) simple staining b) compound staining

c) differential staining d) complex staining.

vii) Peptidoglycan is a

a) Homopolysaccharide b) Heteropolysaccharine

c) Monosaccharide d) Disaccharide.

viii) Which of the following food gramps spoils fast in comparison to others ?

a) Fish b) Cereals

c) Vegetables d) Fruits.

ix) The High Temperature short time (HTST) pasteurization technique works as

a) 63° C b) 72° C

c) 90° C d) 140° C.

x) Peptone is a hydrolysed product of

a) Carbohydrate b) protein

c) fat d) None of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Describe briefly different parts of a compound microscope. 5

3. Discuss the contribution of Louis Pasteur in food microbiology. 5

4. What is ropiness of bread ? Name the organism responsible for it. How can it be presented ? 2 + 1 + 2

5. Name two fermented milk products. Justify fermentation as a preservation technique. 2 + 3

6. Discuss the importance of Methylene Blue Reduction Test for milk. 5

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. a) What are the different factors that determine microbial growth in foods ? 8

   b) What are the main consideration in choosing a chemical disinfectant for use in food industry ? 7

8. What is food poisoning ? What are the different types of food poisoning ? Write two examples for each type. 2 + 7 + 6

9. Write down the steps of glycolysis and TCA cycle mentioning the intermediates, enzymes, coenzymes and metal ions involved. What is the net gain of ATP due to oxidation of one molecule of glucose ? Show the balance sheet. 9 + 1 + 5

10. Name one physical and one chemical anti-microbial agent. Discuss the mode of action of these in detail. Under which situation and for which foods these can be used ? 2 + 10 + 3

11. What is TDT of an organism ? Define *F*, *D* and *Z*-values and discuss their importance. Describe different methods of pasteurization in brief. 3 + 7 + 5