

**PARUL UNIVERSITY**  
**PARUL INSTITUTE OF APPLIED SCIENCES**  
**MID SEMESTER INTERNAL EXAMINATION, APRIL 2017**  
**B. Sc. IV SEM**  
**Subject: Microbiology**

Paper Code: 11101253

Title of the paper: Food Microbiology

Date: 13/04/2017

Time: 12.30 p.m. to 02.00 p.m.

Maximum Marks: 40

Instructions:

1. All questions are compulsory and options are given in first and second question only.
  2. Numbers to the right of question indicate the marks of respective question.
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**Q. 1** Attempt any one question of the following. **(08)**

- (i) State the detailed role of any two external factors affecting the growth of the microbes in food.
- (ii) Write down the industrial production of any distilled alcoholic product

**Q. 2** Attempt any three questions of the following. **(12)**

- (i) Write a short note on Water activity as internal factor for microbial growth
- (ii) Write a short note on Microbial toxins
- (iii) What are the typical biochemical change in food spoilage?
- (iv) *Clostridium botulinum* food poisoning
- (v) Schematically describe the Cheese production

**Q. 3** Do as directed. Attempt all five questions. **(05)**

- (i) Name two physical methods for preservation of food.
- (ii) Penicillium spores is required in which kind of dairy product production?
- (iii) Which bacteria can be found in refrigerated food?
- (iv) What is canning?
- (v) Name two bacteria responsible for food borne intoxication.

**Q. 4** Write correct option in your answer sheet for following 15 multiple choice questions. **(15)**

MCQ 1 Acetic acid bacteria is required for

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|------------------------|----------------------|
| (A) Vinegar production | (B) Wine production  |
| (C) Rhum production    | (D) Vodka production |

MCQ 2 What are the intrinsic factors required for the microbial growth on food?

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|----------------------|---------------------|
| (A) Temperature      | (B) Redox Potential |
| (C) Time of exposure | (D) None of these   |

MCQ 3 The yoghurt is made from

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|-------------------------------------|--|
| (A) <i>Lactobacillus bulgaricus</i> | (B) <i>Staphylococcus thermophiles</i> |
| (C) <i>S. cremoris</i>              | (D) Both a and b                       |

MCQ 4 The optimum water activity required for aflatoxin production is

- |          |          |
|----------|----------|
| (A) 0.93 | (B) 0.98 |
| (C) 0.95 | (D) 0.85 |

- MCQ 5 Ergotism is caused by  
 (A) *Claviceps purpurea* (B) *Aspergillus flavus*  
 (C) Both of them (D) None of the above
- MCQ 6 Rancidity is the spoilage of  
 (A) Lipid (B) Protein  
 (C) Carbohydrate (D) None
- MCQ 7 ----- is an anaerobic, Gram-positive, sporeforming rod causing food borne intoxication  
 (A) *Clostridium botulinum* (B) Methanogens  
 (C) *Vibrio sp* (D) *E. coli* O257:H7
- MCQ 8 The Botulin toxin production of is mediated by  
 (A) Bacteriophage (B) pH of the media  
 (C) Water content of the media (D) Bacterial spore
- MCQ 9 What are the intrinsic factors required for the microbial growth on food?  
 (A) Water activity (B) pH  
 (C) Redox Potential (D) All of these
- MCQ 10 Salmonellosis in ----- patients is estimated to be 20-times higher than the general population  
 (A) HIV infected patients (B) Oral Cancer patients  
 (C) Lung cancer patients (D) TB patients
- MCQ 11 Type of yeast used for alcoholic fermentation is  
 (A) *Saccharomyces cerevisiae* (B) *Streptococcus thermophilus*  
 (C) *Acetobacter acceti* (D) *Clostridium botulinum*
- MCQ 12 Water activity can be expressed as  
 (A)  $p/p_0$  (B)  $p_0/p$   
 (C)  $p_0 * p$  (D)  $p_0 + p$
- MCQ 13 SEB' is produced by  
 (A) *S. aureus* (B) *S. epidermis*  
 (C) *E. coli* (D) None of them
- MCQ 14 The strain of Escherichia coli is an emerging cause of foodborne illness.  
 (A) *E. coli* O157:H7 (B) *E. coli* DH5a  
 (C) *E. coli* DH5b (D) *E. coli* T
- MCQ 15 Name of a distilled alcoholic beverage  
 (A) Beer (B) Vodka  
 (C) Rum (D) None

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