

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (OLD) EXAMINATION – WINTER 2017****Subject Code:131402****Date:17/11/2017****Subject Name: Basic Food Microbiology****Time: 10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Describe the difference between gram +ve bacteria and gram -ve bacteria. **07**  
(b) Describe the contributions of Louis Pasteur in field of Microbiology. **07**
- Q.2** (a) Describe the difference between prokaryotes and eukaryotes. **07**  
(b) Describe the contributions of Robert Koch. Enlist the Koch postulates which help in establishing a causative of a particular disease. **07**
- OR**
- (b) Describe the growth phases of bacterial growth alongwith a typical growth curve diagram. **07**
- Q.3** (a) Draw a diagram to depict steps of western blotting. **07**  
(b) What is transduction? How does specialized transduction differ from generalized transduction? **07**
- OR**
- Q.3** (a) Draw a flowchart to depict the steps of ELISA. Write the full form of ELISA and function of secondary antibody. **07**  
(b) Bacteria are transformed from R strain to S strain by transformation. Explain the concept with experiment conducted by Griffith. **07**
- Q.4** (a) Describe the significance of microorganisms in food and agriculture **07**  
(b) Explain the Redi's experiment. What were the critic's comments **07**
- OR**
- Q.4** (a) Describe steps of bacterial DNA exchange by conjugation using a well labelled diagram. **07**  
(b) Draw a diagram to depict a typical PCR cycle. What is the significance of primers and Taq polymerase? **07**
- Q.5** (a) Describe the role of intrinsic and extrinsic parameters affecting microbial growth in foods **07**  
(b) A typical bacterial cell increases from one cell to 1024 cells in 10 hours. What is the generation time of this organism? **07**
- OR**
- Q.5** (a) Describe significance of probiotics. Name any three probiotic microorganisms and any two probiotic food products available in Indian market. **07**  
(b) Explain the concept of IMViC test used for differentiating enteric bacteria **07**

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