

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-III(OLD) • EXAMINATION – WINTER 2016**

**Subject Code:131402**

**Date:04/01/2017**

**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) Enlist various contributions of Louis Pasteur in field of Microbiology. 07

**Q.2** (a) Describe the difference between prokaryotes and eukaryotes. 07  
(b) Describe how Koch postulates establish the fact that microorganisms cause disease. 07

**OR**

(b) Describe Sigmoid curve of the growth phases of bacterial growth. Explain concept of primary and secondary metabolites with examples. 07

**Q.3** (a) Draw a diagram to depict steps of transduction. What is the difference between generalized and specialized transduction? 07  
(b) Describe any three physical and chemical methods used to control microorganisms. 07

**OR**

**Q.3** (a) Describe any two tests to detect enteric bacteria. Comment on significance of such tests in food industry. 07  
(b) Using a schematic diagram, describe the steps of western blotting technique. For which substance, northern blotting is used? 07

**Q.4** (a) Bacteria are transformed from R strain to S strain by transformation. Explain the concept with experiment conducted by Griffith. 07  
(b) Draw a flowchart to depict the steps of ELISA. Write the full form of ELISA and function of secondary antibody. 07

**OR**

**Q.4** (a) Describe steps of bacterial DNA exchange by conjugation using a well labelled diagram. What is the difference between HFr and F'. 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) Describe the steps of acid fast staining. Why acid fast staining is also known as differential staining? Give an example of acid fast bacteria & disease caused by it. 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) Draw a diagram to depict parts of compound bright field microscope. 07

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