

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-III(Env. Engg.)Examination December 2009

Subject code: 131302

Subject Name: Environmental Microbiology

Date: 19 / 12 / 2009

Time: 11.00 am – 1.30 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) Differentiate clearly between : 07
(i) Sterilization and Disinfection
(ii) Pasteurization and Lyophilization
(b) Write down the procedure for standard plate count (SPC) test using serial dilution for milk. 07
- Q.2** (a) Write down the procedure for MPN test. 07
(b) Write short notes on following chemical agents as a disinfectant. (i) Phenolic compounds (ii) Chlorine compounds 07
- OR**
- (b) Write short notes on following chemical agents as a disinfectant (i) QAC (ii) Iodine 07
- Q.3** (a) Answer the following questions 07
(i) Explain Osmotic shock as a mechanism of microbial control.
(ii) Write down the procedure for “Gram staining”.
(b) Write a procedure for production of Amino acid using microbes. 07
- OR**
- Q.3** (a) Give the difference between moist heat sterilization and dry heat sterilization. 07
(b) Write a short note on different types of stains and staining techniques. 07
- Q.4** (a) Define the following terms : (i) Pure culture (ii) Mixed culture 07
(iii) Axenic culture (iv) Antiseptic (v) Facultative anaerobe
(vi) Incubation (vii) Inoculation
(b) Differentiate between dark field and bright field microscopy 07
- OR**
- Q.4** (a) Write the steps for isolation & preservation of pure culture. 07
(b) Write difference between Eucaryotes and Procaryotes. 07
- Q.5** (a) Write a short note on morphology of Bacteria. 07
(b) Write important characteristic of viruses. 07
- OR**
- Q.5** (a) Write importance of protozoa in env. microbiology field. 07
(b) Enlist the diseases caused by bacteria and viruses. 07
