

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- IV EXAMINATION – WINTER 2013

Subject Code: 143504

Date:30/12/2013

Subject Name: Fundamentals of Biotechnology

Time: 2:30pm to 5:00pm

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) Write the full form of DNA and RNA and explain the transfer RNA along with diagram? 07
(b) What are purines and pyrimidines and along with it explain the double helical structure of DNA? 07
- Q.2** (a) What are the types of immunity and explain any two barriers in innate immunity? 07
(b) What is the function of Messenger RNA and explain it in detail? 07
- OR**
- (b) What is the function of Ribosomes in r-RNA and explain the structure of r-RNA? 07
- Q.3** (a) What are plasmids? Write the properties and functions of plasmids? 07
(b) Write a short note on primary and secondary immune response? 07
- OR**
- Q.3** (a) Explain the structure of an antibody along with the diagram? 07
(b) Write a short note on haptens. 07
- Q.4** (a) Write a note on Genetic code. 07
(b) What are the types or classes of immunoglobulins and explain them? 07
- OR**
- Q.4** (a) Explain blood group types along with Rhesus factor? 07
(b) Explain the generalized model of DNA replication? 07
- Q.5** (a) Explain the proteins involved in DNA replication? 07
(b) Write a note on hybridoma technology? 07
- OR**
- Q.5** (a) Explain the clinical uses of monoclonal antibodies. 07
(b) Write the enzymes involved in DNA replication along with their function? 07
