

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2015

Subject Code:180404**Date:07/05/2015****Subject Name: Nano-Biotechnology****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) Define the term Nano-biotechnology. Write brief historical background of nano-biotechnology. **07**
- (b) Explain, how basic sciences used in nano-biotechnology? **07**
- Q.2** (a) Write down applications of nano-biotechnology and explain any one in brief. **07**
- (b) What are the concepts behind nanotubes and motor proteins. **07**
- OR**
- (b) Write short note on nanotube with their applications. **07**
- Q.3** (a) How one can construct nanopore? Write down its applications. **07**
- (b) Write a short note on nano-biomachine. **07**
- OR**
- Q.3** (a) What are the future applications of nano-biotechnology. **07**
- (b) Give the biological function of a Restriction Modification Enzyme. **07**
- Q.4** (a) Clarify the term “Postman in Moleware”. **07**
- (b) Explain the term “Mission of NanobioICT” and “Network coding in molecular informatics” **07**
- OR**
- Q.4** (a) What are the methodologies learned from the cell for information processing and communication? **07**
- (b) Write a short note on bio-nano sensor. **07**
- Q.5** (a) Write a short note on bio-materials. **07**
- (b) Describe the risks of using of nano particles. **07**
- OR**
- Q.5** (a) Explain, how signalling pathways and molecular movement are linked? **07**
- (b) Explain the term “Lab On Chip”, in the vicinity of bio-nanotechnology. **07**
