

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-III Examination May 2012****Subject code: 131303****Subject Name: Ecology & Remote Sensing****Date: 08/05/2012****Time: 02.30 pm – 05.00 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) What is population growth? How is it determined? Discuss the malthusian theory of population growth. **07**
(b) Write short notes on (i) population dynamics (ii) Territorialism **07**

- Q.2** (a) Differentiate active and passive remote sensing and discuss the applicability of each in the field. **07**
(b) Write short notes on (i) Amensalism (ii) Commensalism **07**

OR

- (b) What do you mean by inter specific population? Discuss the competition among the different species. **07**

- Q.3** (a) What are limiting factors? Discuss the range of tolerance schematically for individual specie for any one factor. **07**
(b) What are the laws of maxima and minima? Discuss the Liebig's Law of the Minimum. **07**

OR

- Q.3** (a) Write short notes on (i) Indicator organisms (ii) Logistic growth **07**
(b) What are climographs? Describe the different types of climographs schematically. **07**

- Q.4** (a) What are different types of sensors used in remote sensing technique? Compare those sensors as per their utility. **07**
(b) How the data are collected by the remote sensing technique? Explain any two techniques in details. **07**

OR

- Q.4** (a) What is remote sensing? Describe the electromagnetic spectrum schematically with wavelengths. **07**
Q.4 (b) Discuss the basic principle of remote sensing and explain its application in the field of environmental engineering. **07**

- Q.5** (a) Define GIS and discuss the applications of GIS. **07**
(b) Write short notes on (i) GPS (ii) Principle of GIS. **07**

OR

- Q.5** (a) Explain the objectives and functions of GIS. **07**
(b) Describe the key components of GIS and discuss the advantages of GIS. **07**
