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# GUJARAT TECHNOLOGICAL UNIVERSITY
### BE - SEMESTER– IV (New) EXAMINATION – WINTER 2019

**Subject Code: 2141305**                                                      **Date: 14/12/2019**

**Subject Name: Ecology and Remote Sensing**

**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.**

| | | | Marks |
|---|---|---|---|
| **Q.1** | **(a)** | State the objectives of ecology. | **03** |
| | **(b)** | Define Antibiosis with appropriate example. | **04** |
| | **(c)** | Enlist population estimation methods and explain any one in detail. | **07** |
| | | | |
| **Q.2** | **(a)** | Explain spectral reflectance curve. | **03** |
| | **(b)** | Write short note on Climagraphs. | **04** |
| | **(c)** | Discuss Image Interpretation keys in detail. | **07** |
| | | **OR** | |
| | **(c)** | Enlist and explain types of scattering. | **07** |
| **Q.3** | **(a)** | Write a note on Alien organisms. | **03** |
| | **(b)** | Differentiate between Photo and Image. | **04** |
| | **(c)** | Discuss Mutualism and Communalism with appropriate example. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Differentiate Digital image processing and visual image processing. | **03** |
| | **(b)** | Give the difference between Active sensors and Passive sensors. | **04** |
| | **(c)** | Write a short note on dominance hierarchy. | **07** |
| **Q.4** | **(a)** | Explain factors affecting GPS data quality. | **03** |
| | **(b)** | 'GIS is a knowledge hub' Justify the statement. | **04** |
| | **(c)** | Explain Shalford's law and Leibig's law of tolerance with appropriate example. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Enlist the applications of GIS. | **03** |
| | **(b)** | Why is Ground Truth important in Remote Sensing? | **04** |
| | **(c)** | How is Ocean and Coastal monitoring done by Remote sensing? State its few applications. | **07** |
| **Q.5** | **(a)** | Explain film resolution. | **03** |
| | **(b)** | Explain the role of Indicator Organism with suitable examples. | **04** |
| | **(c)** | Explain GPS in detail. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Explain territorialism in detail. | **03** |
| | **(b)** | Explain agricultural applications of remote sensing in detail. | **04** |
| | **(c)** | Explain remote sensing process in detail. | **07** |

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