# GUJARAT TECHNOLOGICAL UNIVERSITY
## M.E Sem-I Regular Examination January / February 2011

### Subject code: 711206N
### Subject Name: Remote Sensing and its Applications

Date: 03 /02 /2011                     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.**

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|---|---|---|---|
| **Q.1** | **(a)** | Draw sketch showing components of remote sensing and explain concept and principles of remote sensing. | **07** |
| | **(b)** | Explain basic concepts and components of GIS | **07** |
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| **Q.2** | **(a)** | Explain GPS and its importance for remote sensing and GIS applications. | **07** |
| | **(b)** | Explain (i) spatial resolution (ii) temporal resolution. | **07** |
| | | **OR** | |
| | **(b)** | Explain (i) spectral resolution (ii) radiometric resolution. | **07** |
| | | | |
| **Q.3** | **(a)** | Explain (i) signature (ii) pixel size and scale. | **07** |
| | **(b)** | Explain various types of enhancements, with sketches. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain elements of visual interpretation. | **07** |
| | **(b)** | Describe platforms of remote sensing. | **07** |
| | | | |
| **Q.4** | **(a)** | Explain supervised and unsupervised classification. | **07** |
| | **(b)** | Explain satellite orbit, swath and field of view. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Describe different types of maps, map projections and coordinate systems. | **07** |
| | **(b)** | Explain optical and infrared sensors. | **07** |
| | | | |
| **Q.5** | **(a)** | Describe thematic map projection. | **07** |
| | **(b)** | Explain (i) side looking airborne radar(SLAR) (ii) synthetic aperture radar(SAR) | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Describe various patterns of reflectance and reflectance characteristics of land, water and vegetation. | **07** |
| | **(b)** | Distinguish (i) active and passive remote sensing (ii) vector data model and raster data model. | **07** |

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