

**SUBJECT : SPATIAL ANALYSIS & MODELING**

Day : Tuesday  
Date : 27/11/2018

**W-2018-1246**

Time : 02.00 PM TO 05.00 PM  
Max. Marks : 60

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**N.B.:**

- 1) Attempt **ANY FIVE** questions.
  - 2) Figures to the right indicate **FULL** marks.
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**Q.1** Answer the following in detail: [12]

- a) Explain the difference between Stochastic and deterministic spatial modeling techniques.
- b) What is dynamic/iterative modeling?

**Q.2** Answer the following in detail: [12]

- a) What is 'point-in-polygon' algorithm?
- b) Explain the topological relationship between entities that overlap in space. Give examples.

**Q.3** Answer the following in detail: [12]

- a) Explain cost path analysis in terms of cost surface.
- b) What is cost distance analysis? How it is different from corridor analysis?

**Q.4** Answer the following in detail: [12]

- a) What is Loose Coupling, tight coupling and embedded system in GIS Modeling?
- b) What is binary model? How it is different from index model?

**Q.5** Answer the following in detail: [12]

- a) What are local operations? Give in brief how reclassification works.
- b) Explain steps involved in watershed management using GIS and RS.

**Q.6** Write short notes on **ANY THREE** of the following: [12]

- a) Terrain Mapping
- b) Hill shades
- c) Vertical exaggeration
- d) Least cost path analysis