

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B. Tech. GIE

Semester VII

Subject (Course): Spatial Data Analysis and Modeling

Max. Marks: 100

Course Code : GIEG 413

Duration: 3 Hrs

No. of page/s: 2

Section –A

Answer all Questions

(5X4 = 20)

1. Explain the concept of linguistic variable –hedges and list operators applied to the fuzzy sets representing linguistic terms [4]
2. Give the diagram of conceptual framework of the Markov–cellular automata (MCA) model [4]
3. Write the concept of binary weight method in spatial weight matrix analysis with empirical relationship [4]
4. Write short note with illustration epsilon band parameter used in spatial data quality assessment [4]
5. Give an brief account of complex adaptive system with examples [4]

Section –B

Answer all Questions

(4x10 = 40)

6. Discuss various measurements analysis to be performed using vector and raster data [10]
7. Write short notes on structure of Agent based model and Agent environments [5+5]

or

Give an detail account of Moran's I index of spatial autocorrelation

8. Write notes on network allocation and trace methods of network spatial analysis. [5+5]
9. Write the concept and procedure of simplified method of fuzzy reasoning of geo-spatial analysis [10]

Section –C

Answer all Questions

(2X20 = 40)

10. Discuss in details (with illustrations and mathematical relationship) k-Order Neighbors Weight matrix spatial analysis method of spatial weight [20]

or

Discuss in details various issues of geo-spatial analysis [20]

11. Write in details the method of weight of evidence method of geo-spatial analysis (give major mathematical relationships) [20]

