

<b>Name:</b>	
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2018**

<b>Course: Introduction to GeoInformatics</b>	<b>Semester: III</b>
<b>Programme: B.Tech (GeoInformatics Engg.)</b>	<b>Max. Marks: 100</b>
<b>Time: 03 hrs.</b>	
<b>Instructions:</b>	

**SECTION A**

S. No.	Question	Marks	CO
Q 1	Draw diagrams to show the angles of latitude and longitude for a given point on the surface of earth, and define how they are measured?	4	CO2
Q 2	Given the longitude of a place, how would you find out the UTM Zone for that place?	4	CO2
Q 3	What is feature linked annotation? What is its importance?	4	CO3
Q 4	Name the three properties within a spatial reference specified while creating a feature class inside a geodatabase. Which properties get locked and cannot be modified once a spatial reference has been defined?	3+1	CO4
Q5	Briefly describe the four types of data recognized in a GIS.	4	CO2

**SECTION B**

Q 6	List down the advantages of using a Geodatabase. Briefly describe the three different types of geodatabases.	5+3	CO5
Q 7	a) At a scale of 1:1000, how long will a line on a map be if it represents a real world line 100 meters long?	2	CO2
	b) What are the rules under merge and split policies of a domain in a geodatabase? Draw suitable diagrams supporting your answer.	3+3	CO5
Q 8	Describe the major analytical tools used for vector geoprocessing. Explain and give examples from real world scenarios of each?	8	CO3
Q 9	Explain with examples why data layers (e.g. land-use map, soil map, road network map etc.) are a fundamental means of organizing geographic data in almost all GIS.	8	CO1
Q 10	Discuss the difference between raster and vector data formats for a GIS database. Cite the advantages and disadvantages of each format.	8	CO2

**SECTION-C**

Q 11	Describe the two different types of coordinate systems in GIS, showing how coordinates are measured in each system? Draw suitable diagrams.	15+5	CO5
Q 12	a) What is Raster Map Algebra? What are the different Boolean operators used in raster algebra? Draw truth table for each operator.	10	CO4
	b) What is resampling of raster data? Explain the three different resampling methods?	10	CO4

**OR**

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	Give the steps involved in a geodatabase development process, detailing the steps involved at each of the conceptual, logical, and physical design phases.	<b>20</b>	<b>CO5</b>
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