Name: **Enrolment No:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Advances in GeoInformatics Engg. **Semester: VIII**
Program: B.Tech GIE **Time : 03 hrs.**
Course Code: PEGI 4001 **Max. Marks: 100**

Instructions:
All Questions are Compulsory.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Explain the term Membership function in Fuzzy logic.	**4**	**CO1**
Q 2	Define an AM/FM system and list its important parameters.	**4**	**CO2**
Q 3	List any four natural variables in ore reserve estimations that can benefit from geo-statistics based quantitative descriptions.	**4**	**CO3**
Q 4	List four characteristics of normal distribution and the significance of z-score in normal distribution.	**2+2**	**CO3**
Q 5	How can GIS analytical studies benefit from a distributed database and distributed processing system.	**4**	**CO4**

SECTION B
(4Qx10M= 40 Marks)

Q 6	Summarize the key primary attributes derived from DEM and their applications.	**10**	**CO3**
Q 7	What are the advantages of 3D geovisualization. Explain its significance in Terrain analysis.	**5+5**	**CO4**
Q 8	Discuss the key differences between an AM, FM and AM/FM/GIS systems with diagrams.	**10**	**CO2**
Q 9	How is weighted overlay different from fuzzy overlay and explain the different types of fuzzy overlay.	**3+7**	**CO1**

SECTION-C
(2Qx20M=40 Marks)

Q 10	a) Explain the four scales on which variables can be measured in statistics along with suitable examples.	**10**	**CO3**
	b) Discuss how geostatistical studies can aid in petroleum geoscience.	**10**	**CO3**
Q 11	List and explain the characteristics of WebGIS. With a suitable diagram describe the system architecture of WebGIS.	**10+10**	**CO4**