Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2019

Programme Name: B.Tech (Ape-Gas) **Semester : III**
Course Name : Petroleum Exploration **Time : 03 hrs**
Course Code : PEGS 3013 **Max. Marks: 100**
Nos. of page(s) : 1
Instructions: Answer each question in separate page.

SECTION-A (5x4=20)

Sl. No.	**Briefly Describe following**	**Marks**	**CO**
Q1	Write a short note on digitization process of an analog signal.	5	**CO1**
Q2	What is the difference between primordial and radiogenic Helium?	5	**CO3**
Q3	Define Paramagnetic, Diamagnetic and Ferromagnetic minerals.	5	**CO4**
Q4	In magneto telluric survey what is the source of high frequency signal greater than 1 Hz?	5	**CO4**
	SECTION-B (10x4=40) **Answer question 5 and any three from rest of the following.**		
Q5	Write a comprehensive essay on different methods of hydrocarbon microseepage detection onshore.	10	**CO3**
Q6	Write a note on biological activity in soil profile and its importance in geochemical petroleum prospecting?	10	**CO3**
Q7	What is the source of geothermal heat for shallow crustal level?	10	**CO5**
Q8	What are the factors that govern mobility of Uranium in soil profile? How mobility of Uranium is helpful for geochemical hydrocarbon exploration?	10	**CO3**
Q9	For a gravity geophysical survey what are the corrections that raw gravity data needs to be gone through?	10	**CO2**
	SECTION-C (20x2=40) **Answer question 10 and any one from rest of the following.**		
Q10	In reflection seismic signal processing describe the process of migration for horizontal bed, dipping bed and folded surface.	20	**CO6**
Q11	Define major, minor and trace elements in soil analysis. Describe how distribution of iron minerals are helpful in geochemical hydrocarbon exploration?	10+10 =20	**CO3**
Q12	What is the importance of cross-over distance in refraction seismic survey?	20	**CO6**