Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Digital Image Processing **Semester: VI**
Program: B.Tech GIE **Time 03 hrs.**
Course Code: GIEG 321 **Max. Marks: 100**

Instructions: Answer all questions. However, there are internal choice in some questions.

SECTION A

S. No.		Marks	CO
Q 1	What do you mean by 'parametric' and 'non-parametric' measures in remote sensing classification?	5	CO1
Q 2	List out various statistical filters for texture analysis	5	CO1
Q 3	Explain the term ' digital change detection' with example	5	CO1
Q 4	Construct a second derivate filter of kernel size of 3x3	5	CO2
	SECTION B		
Q 5	Evaluate the application of frequency based kernels in fast fourier transformation for geo-informatics study	10	CO3
Q 6	Develop an algorithm for maximum likelihood classification	10	CO3
Q 7	Evaluate the effect of sampling and quantization on quality of image. How the artifacts can be reduced during quantization of imagery?	10	CO4
Q 8	Evaluate the advantage of non-linear stretching with example. Give an example of any non-linear stretching **OR** Develop an algorithm for histogram matching with suitable example	10	CO4
	SECTION-C		
Q 9	Develop a detail algorithm with example for principal component analysis (PCA). Elaborate its relevance in geoscientific investigation	20	CO5
Q 10	Develop a Decision support system (AHP) model for disaster management **OR** Develop an Artificial Neural Network based model to extract meaningful information from Imagery and other geospatial data	20	CO5