Name: Enrolment No:	⧠ UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination (2nd Attempt) July 2020

Course: Advances in GIE   Semester: VIII
Program: B. Tech. GIE   Time 03 hrs.
Course Code: GIEG 403   Max. Marks: 100

SECTION A

S. No.	Instruction: Fill up the blank spaces / Tick the correct answer	Marks	CO
Q 1	The inputs data (6 nos.) of HEC-Geo Ras model are ------------, ---------------, --------------, ------------, ---------------, --------------,	5	CO3
Q2	The computed value of PDF with the given data – Z= 30; Mean= 20 and Variance = 15 a. 0.051; b.; 0.015 c. 0.150 d 0.0037.	5	CO4
Q3	The inputs parameters (6 nos.) of APEX model are -------------, ----------, ------------, --------------, ---------------, ----------------,	5	CO3
Q4	The value of temperature indices, computed using data of parameters – Tb = 30 deg.; Tlapse = 3 deg.; Z= 1500m; Zb = 1000m; CS factor = 2; LAI = 3 and LAI max = 5 is a. 28.5 b. 29.3 c. 26.7 d. 27.5	5	CO2
Q5	Compute Information Value of a factor class responsible for presence of an causative factor using given data such as total nos. of grid of the study area = 500; total nos. of grids of causative factor = 200; total nos. of grids of factor class = 300 and total nos. of grids of causative factor in the factor class = 100 a. 0.254 b. 0.135 c. – 0.477 d. – 0.355	5	CO1
Q6	Six commonly derived atmospheric parameters obtained from GNSS signal delay measurement are -----------------------, -------------------, ------------------------------------, --------------------------, -----------------------------, --------------------,	5	CO3
SECTION B			
	Instruction: Write short / brief notes on -		
Q 7	Write application examples of five types of semi-variogram .model. Explain briefly the concept of use of geo-statistics in disease risk analysis (Take COVID 19 example in India)	5 + 5	CO1
Q 8	What are the differences between Ordinary and Universal kriging methods and briefly describe the processing steps of these two methods of kriging	3 + 7	CO1
Q 9	Why topographic correction of reflectance measured by remote sensing sensor is important in natural resources mapping? Describe briefly the concept and approach of avalanche risk assessment using DEM and other spatial ancillary data,	5 + 5	CO2
Q 10	With example and descriptions of analysis steps explain - the knowledge driven model for predicting mineralization.	5 + 5	CO3

Q 11	Describe the principles of applications of GNSS in Water Resources and Oceanography. OR Approach and analysis steps of one deterministic landslide hazard zonation geo-spatial modeling.	5 + 5	CO2

SECTION-C

Q12	Discuss in details the principle of AHP method of spatial modeling and give an example of application of AHP with descriptions of analysis steps in geoscience. OR Explain in details the principle of GNSS – RO technique for the estimation of water vapor density of atmosphere. What are the advantages of GNSS-R in comparison to commonly used Radar remote sensing. Briefly describe the applications of GNSS in Earthquake studies.	10 + 10 10 + 5+ 5	CO3