
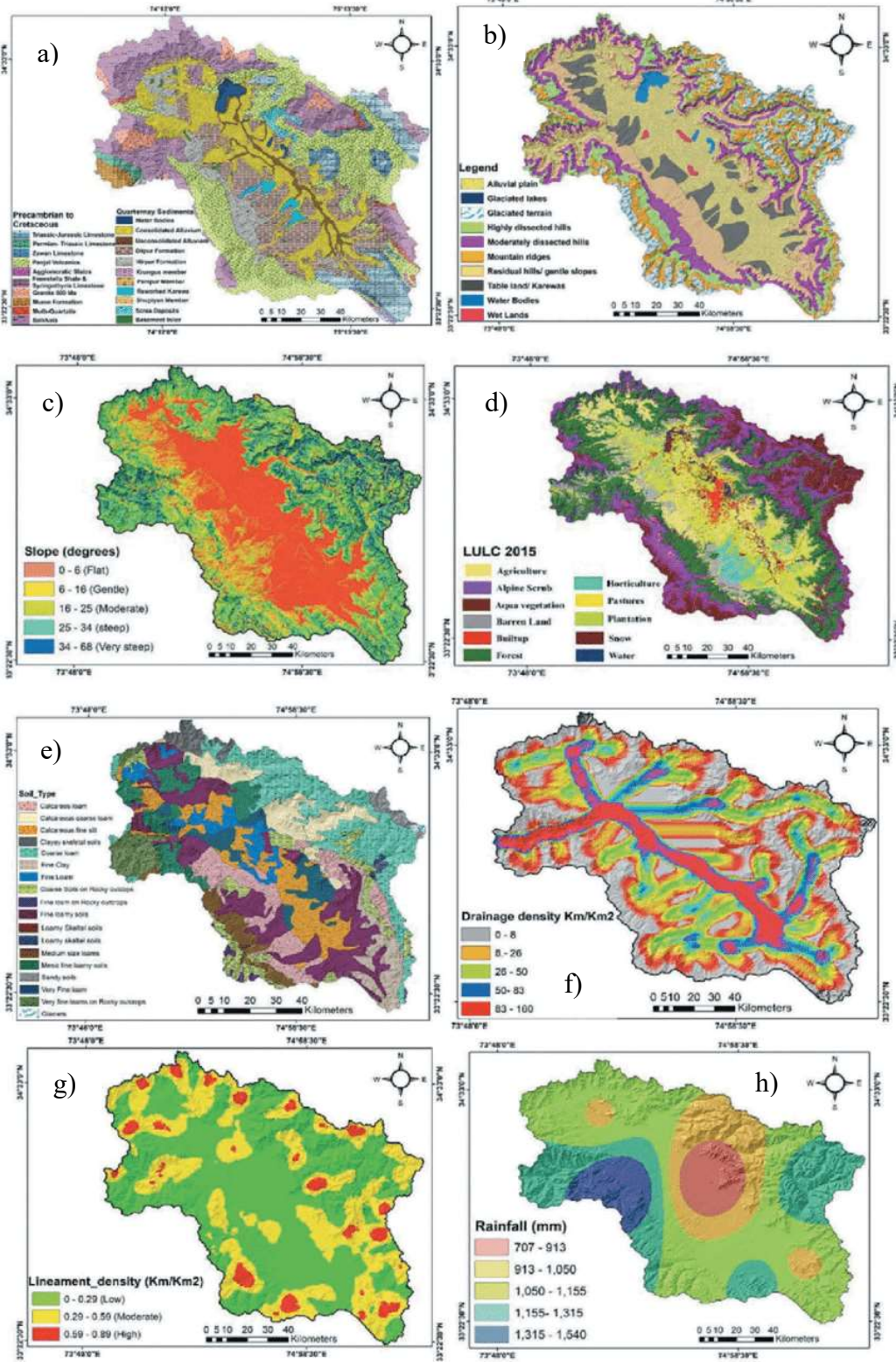


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, Dec 2023			
Programme Name: M Tech (REE.)		Semester : I	
Course Name : Natural Resource Management		Time : 03 hrs.	
Course Code : EPEC7061P		Max. Marks: 100	
Nos. of page(s) : 03			
Instructions: Go through the questions carefully and assume suitable data, if necessary.			
SECTION A (5Qx4M=20Marks)			
S. No.	Questions	Marks	CO
Q1	Discuss the factors responsible for natural resource distribution and those that influences its availability?	4	CO1
Q2	What are the challenges for good governance of natural resources? Explain with examples.	4	CO2
Q3	How RS and GIS techniques can be used in aquatic pollution mapping and eradication?	4	CO3
Q4	What is the role of national and international organizations in the promotion of sustainable nature resource management?	4	CO2
Q5	What is the difference between correlation and regression? Explain with examples?	4	CO1
SECTION B (4Qx10M=40Marks)			
Q6	Explain the concept and types of resources? Provide a brief overview of the water resources in India and its pollution status? Explain at least three different technologies/management approaches for the treatment of municipal wastewater?	10	CO3
Q7	What are the laws that are dedicated to environmental preservation, protection and sustainable management? Provide a brief note on the shortcoming in legislation (Acts/Rules/Laws)?	10	CO3
Q8	Provide various strategies to facilitate soil and water conservation? Enumerate the various ways through which there can be a better integrated watershed management that restricts floods, landslides, soil erosion and associated environmental damages?	10	CO4
Q9.	What are the different types of Ecosystem services? Explain with examples?	10	CO4
SECTION C (2Qx20M=40Marks)			
Q10.	Explain the basic principle of Environmental Modelling with RS and GIS? What are the steps to carry out the GIS and RS analysis? Explain the various features of thematic maps and interpret the figures provided below? [Figure. Kashmir Valley: Thematic Layers - (a) lithology, (b) geomorphology, (c) slope, d) LULC, (e) soil, (f) drainage density, (g) lineament density, (h) rainfall] Explain the development of the thematic layers with example? Provide the various applications of RS and GIS?	20	CO4



Source: [Delineation of potential groundwater recharge zones using analytical hierarchy process \(AHP\) \(researchgate.net\)](https://www.researchgate.net/publication/354044444-Delineation_of_potential_groundwater_recharge_zones_using_analytical_hierarchy_process_AHP)

Q11	Calculate the regression coefficient and obtain the lines of regression for the following data on forest patches and species diversity.										20	CO5	
	Forest Patch	1	2	3	4	5	6	7	8	9			10
	Species diversity	11	22	8	6	12	25	4	16	18			29