UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December, 2021

Course: Applications of Geo-informatics **Semester: VII**
Program: B. Tech. GIE **Time 03 hrs.**
Course Code: PEGI 4002 **Max. Marks: 100**
Nos. of pages: 2
Instructions:

S. No.		Marks	CO
	SECTION A		
Q 1	Briefly describe features of one endogenic geomorphic landform.	**4**	**CO2**
Q 2	Write the characteristics of drainage pattern used for identification of cuesta topography using remote sensing data.	**4**	**CO1**
Q 3	Summarize the use RS is useful for global climate change studies.	**4**	**CO3**
Q 4	Give empirical relationships of VCI & TCI	**4**	**CO3**
Q 5	List RS derived indicators used for irrigation system performance evaluation.	**4**	**CO4**
	SECTION B		
Q 6	Describe with diagrams the techniques of identification of various types of geological structural fold using remote sensing derived drainage patterns.	**10**	**CO1**
Q 7	Discuss the approaches of mineral exploration guides formed by rock alteration and role of remote sensing with examples.	**10**	**CO2**
Q 8	With flow diagrams, discuss the methodologies of flood forecasting and generation of flood inundation map of urban areas.	**10**	**CO3**
Q 9	Briefly discuss remote sensing & GIS based crop yield prediction modeling approaches. Write short note on change angle based digital LULC change detection technique.	**5 + 5**	**CO4**
	OR		
	Give a brief account on rainfall - runoff modeling using SCS method utilizing remote sensing inputs and GIS. Identify main types of mineral deposits and their surface indications observable on remote sensing data	**5 + 5**	**CO4**
	SECTION-C		
Q 10	Discuss in detail the approaches of use of hyperspectral remote sensing technique in hydrocarbon exploration. Give an account of various geo-botanical methods used in mineral exploration and role of remote sensing.	**12 + 8**	**CO3**

Q 11	Discuss in details Remote Sensing based approaches of neo-tectonic evidences used for seismic hazard zonation. Give an account of techniques of subsurface coal fire detection using Remote Sensing data.	**10 + 10**	**CO3**
	OR		
	Elaborate in detail remote sensing based techniques for monitoring and early warning of volcanic eruption. Discuss principles and advantages and disadvantages of oil spills detection and mapping using optical, thermal and microwave remote sensing.	**12 + 8**	**CO3**