


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, May 2023</b>			
<b>Course: Thermal and Microwave Remote Sensing</b> <b>Program: B.Tech GIE</b> <b>Course Code: PEGI 4005P</b>		<b>Semester: VIII</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: Attempt all questions. There are internal choice in some questions</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Discuss the spectral specification of AirSAR radar system	4	CO2
Q2	Identify the use of Inertial Measurement Unit (IMU )	4	CO2
Q3	Describe VH, HH, HV polarization mode	4	CO1
Q4	Compare Polarimetric and dual polarized radar system	4	CO1
Q 5	Describe the term 'Emissivity'	4	CO2
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	Compare the merits/demerits of Airborne and Spaceborne Radar Systems	10	CO3
Q 7	Evaluate the relevance of Stephen Boltzmann's law and Wien's displacement law in thermal remote sensing study	10	CO3
Q 8	Evaluate the role of LiDAR technology in bathymetry and landform mapping	10	CO2
Q 9	Critically analyze a Land Surface Temperature measurement algorithm for single band thermal data <b>OR</b> Derive an algorithm for Emissivity extraction from Landsat satellite data	10	CO2
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	Evaluate the potential application of thermal satellite data in geological investigation	20	CO4
Q 11	Explain the potential of microwave satellite data in geological mapping <b>OR</b>	20	CO4

	Demonstrate the SAR data processing of complex image in extraction of Digital elevation model		
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