

Course Code: 464VAC3	Course – III- METEOROLOGY AND CLIMATE CHANGE	Credits: -	Hours: 10
Objectives	<ul style="list-style-type: none"> ➤ To learn the Meteorology and Climate change. ➤ To learn the Atmosphere and temperature conditions. ➤ To understand the Weathering and Forecasting. 		
Unit: I	<p>Meteorology: introduction, definition, scales in meteorology, branches and applications. Earth Radiation balance: Sun’s Energy output, Incoming radiation, Energy spectra of sun and earth, Insulation, Insulation over the globe, insulation losses in atmosphere, long wave radiation, Global radiation balance, Solar energy.</p>		
Unit: II	<p>Atmosphere: Composition and structure of atmosphere, Layered structure of atmosphere. Temperature: Introduction, factors influence air temperature, Surface temperature, air temperature, daily cycle of temperature, annual cycle of temperature, urban heat island.</p>		
Unit: III	<p>El Nino: Introduction, upwelling. El Nino La Nino events and consequences: unusual weather and rainfall, sea surface temperatures, atmospheric consequences, economic consequence. Detection and prediction of El Nino. Weather forecasting.</p>		
Unit: IV	<p>Introduction, definition. Classification of climate; Koppen’s, Bergeron, Thornthwaite’s and Strahler classification. Climate change, Palaeoclimatology, Climatic changes through geological time, Geological records of climate, Assessing climate change, Human intervention on climate change.</p>		
Unit: V	<p>Causes of climate change: Astronomical theories, Plate Tectonism, Ocean circulation pattern, Changes in compositions of atmosphere, Changes in solar radiation. Impact of climate change: Rising of CO₂, impact on atmospheric circulation & weather pattern, biosphere, hydrosphere, sea level changes, Adaptation provinces.</p>		
Reference and Textbooks:			
<ol style="list-style-type: none"> 1. Alan.H. Strahler and Arthur N.Strahler 1992.Modern Physical Geography Fourth Editions John Wiley & Sons.In.p638., 2. Alan Strahler and Arthur Strahler (2002). Physical Geography, 2nd edition John Wiley & Sons Inc.P748. 3. Byers (2005), Meteorology, The Encyclopedia Britannica 15th Ed. 4. Dorothy J.Meeritts and Andrew De (1997)Wet & Kirsten Menking, Environmental Geology – W.H.Freeman and Company, New York ,,, 5. Horace General, (1994)Meteorology New York Mc Graw Hill. 			
Outcomes	<ul style="list-style-type: none"> ➤ To understand the meteorology and climate change. ➤ Realized the atmosphere and temperature conditions. ➤ To gain knowledge about the weather and forecasting. 		