Name: Set 2

**Enrolment No:** 



## **UPES**

## **End Semester Examination, December 2023**

Course: Weather Forecasting
Program: B.Sc (H):Physics
Course Code: PHYS2021
Semester: III
Time : 03 hrs.
Max. Marks: 100

**Instructions: All Questions are compulsory** 

	SECTION A				
$(5Q \times 4 = 20Marks)$					
S. No.		Marks	СО		
Q 1	Draw the graph to show the variation of temperature and pressure with altitude.	4	CO		
Q 2	What is the significance of traditional weather forecasting methods?	4	CO		
Q 3	What do you mean by Air masses?	4	CO		
Q 4	Discuss the depletion of the ozone layer	4	COI		
Q 5	Define and analyze the formation of Geostrophic Winds	4	CO2		
	SECTION B				
	$(4Q \times 10 = 40 \text{ Marks})$				
	Question 9 consists of an internal choice.				
Q 6	What are temperature sensors? Classify different types of temperature sensors and discuss their applications.	10	CO		
Q 7	What do you mean by scattering of electromagnetic radiation? Discuss the role of different types of scattering processes in the atmosphere.	10	CO2		
Q 8	What is a Jet Stream? Explain the formation of different types of Jet streams.	10	CO3		
Q 9	What do you mean by precipitation? Discuss in detail the different types of precipitation prevalent in different climate zones.  Or	10	CO3		
	Discuss the formation and classification of different types of clouds.	10			
	SECTION-C				
	$(2Q \times 20 = 40 \text{ Marks})$				
	Question 11 consists of an internal choice.				
Q 10	a) Explain the concept of Global Warming and its overall impact on the society.	10	CO		

	b) How is air pollution classified? What are the different sources of outdoor air pollution? What are the different risks associated with its exposure for short and long duration?	10	
Q 11	<ul><li>a) What is the historical background of weather forecasting, and how has it evolved? Why is it important to measure and forecast the weather, and how does accurate weather prediction benefit society?</li><li>b) What are the different criteria for choosing a suitable location for a weather station, and how does the station's location affect the accuracy of weather data? Why are these factors crucial in obtaining reliable weather information?</li></ul>	(10 + 10)	
	<ul><li>Or</li><li>a) Why satellites are important to us? How do satellites orbit the Earth, and write their classification based on their orbit of cycle?</li><li>b) Discuss in detail about the weather Map. What is the significance of weather maps in the forecasting process, and how are they created and interpreted?</li></ul>	(10 +10)	CO4