Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Program Name: B.Tech (ASE, GIE, PSE, GSE, ADE, Civil, Electrical, Mining, Mechanical, ASE-AVE, APEGAS, CERP, ECE, FSE) **Semester: V**
Course Name: Weather Forecasting **Time: 03 hrs.**
Course Code: PHYS 3202 **Max. Marks: 100**
Nos. of pages: 2

Instructions: 1) Mention Roll No at the appropriate place in the question paper.
2) Answers should be brief and concise.

SECTION A (20 marks)
All question of section A are compulsory

S. No.		Marks	CO
Q 1	Define temperature sensors? Write the name of different types of temperature Sensors.	**4**	**CO1**
Q2	What do you mean by permanent and variable gases in the atmosphere?	**4**	**CO1**
Q3	Explain the difference between Gust and Squall.	**4**	**CO2**
Q4	Explain the importance of Weather prediction.	**4**	**CO4**
Q 5	What are the different categories of weather forecasting?	**4**	**CO4**

SECTION B (40 marks)
Question 9 consist of an internal choice

Q 6	Draw the physical structure of Atmosphere and explain in details?	**10**	**CO1**
Q 7	What do you mean by Climate and Climate change? Discuss different types of Climate.	**10**	**CO3**
Q 8	What do you mean by a weather map? Explain different types of Weather Maps.	**10**	**CO4**
Q 9	What are Geostrophic, Gradient and Frictional Layer winds? **OR** Define mean Humidity, Relative humidity, Humidity mixing Ratio, Dew point temperature?	**10**	**CO2**

SECTION-C (40 marks) (Q10 is compulsory. Attempt any set of Q11 & 12)			
Q 10	a) What do you mean by surface and ambient temperature? How it is measured? What are the different units and write relation between different units.	**10**	**CO1**
	b) What are Satellites? How satellites help in weather forecasting?	**10**	**CO4**
Q 11	a) Define Acid Rain? What causes acid rain? What are its effects?	**10**	**CO3**
	b) What do you mean jet streams? Explain the different types of Jet Streams.	**10**	**CO3**
Q 12	a) Write a short note on Air Pollution. Discuss its causes and its impacts.	**10**	**CO3**
	b) Explain the term thunderstorm. Write various type of thunderstorms based on their formation.	**10**	**CO3**