



OEPH111

Reg. No.

--	--	--	--	--	--	--	--

I Semester All UG Courses Degree Examination, February/March - 2024

PHYSICS

Climate Science (Open Elective)

(NEP Semester Scheme Freshers 2021-22 and Onwards)



Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Follow the instructions given under each part.

PART - A

Answer any TEN of the following. Each question carries 1 mark.

(10×1=10)

1. Define volume mixing ratio.
2. What is atmospheric science?
3. How does the temperature vary with altitude in the mesosphere?
4. What are trade winds?
5. Expand the acronym WMO.
6. Mention a device used to measure wind speed.
7. What is meant by nucleation?
8. What is the typical size of an aerosol particle?
9. What is greenhouse effect?
10. Write the full form of ENSO.
11. What is meant by eye of a tropical cyclone?
12. What is geo engineering?

[P.T.O.]



(2)

OEPH111

PART - B

Answer any TEN of the following. Each question carries 2 marks. (10×2=20)

13. Name the different layers of ionosphere.
14. Mention two factors which affect the vertical distribution of temperature.
15. Mention any two climate variables.
16. What are fixed gases of the atmosphere?
17. What is the principle of pressure measurement by mercury-in-glass barometer?
18. What is meant by dielectric breakdown?
19. Mention two R and D centres dedicated to climate science in India.
20. Mention the limitations of the GCM for weather forecasting.
21. Differentiate between climate and weather.
22. Define inter seasonal and interannual monsoon variability.
23. Mention two physical impacts of a rise in sea level.
24. What are the chemicals used in cloud seeding?

PART - C

Answer any FIVE of the following. Each question carries 6 marks. (5×6=30)

25. Write a note on troposphere and mesosphere.
 26. i) Explain the sources and sinks of fixed gases in the atmosphere. (4+2)
ii) Write a note on ozone layer.
 27. Describe the horizontal and vertical distribution of temperature.
 28. Explain the measurement of humidity using psychrometer.
 29. Write a note on the satellite observation.
 30. Write a note on the formation of trade winds.
 31. What are El Niño and La Niña? Explain the El Niño event. (2+4)
 32. What are conventional and non-conventional sources of energy also known as? Mention any four differences between them. (2+4)
 33. Mention the three fundamental driving mechanisms for monsoon circulation. Explain differential heating of land and sea. (3+3)
-