

**U.G. 5th Semester Examination - 2021**

**PHYSICS**

**[HONOURS]**

**Discipline Specific Elective (DSE)**

**Course Code : PHY(H)-P-DSE-02/PR**

**[PRACTICAL]**

**(Atmospheric Physics)**

Full Marks : 20

Time : 2 Hours

*The figures in the right-hand margin indicate marks.*

1. Answer any **two** questions: 10×2=20

a) Define the following Atmospheric waves :

i) Kelvin Waves

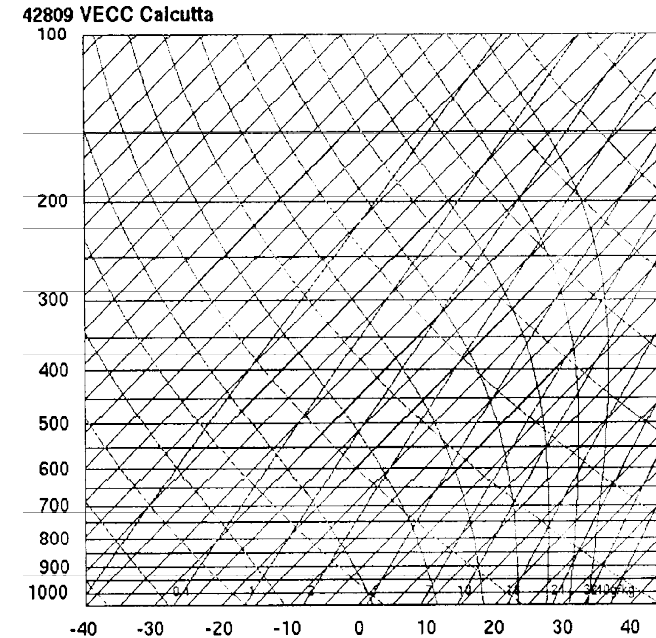
ii) Rossby Waves

Briefly discuss the Perturbation methods of representing atmospheric waves with proper illustrations. What is Numerical Weather Prediction? 1+1+(6+2)

b) Draw an Environmental Lapse Rate on the provided Skew T diagram below and comment on the atmospheric stability conditions.

What do you mean by Melting Layer Height?

8+2



c) Describe the working principle of a LIDAR.

What are the applications of LIDAR in atmospheric system studies?

Give examples of some space borne LIDAR databases. 4+4+2

d) What is time series analysis? What is its relationship with periodicity?

How can time series analysis be utilized to represent the temperature fluctuations from prehistoric data? (4+2)+4

[Turn over]