

(This Question Paper contains 2 printed pages)

Roll No.:

Sl. No. : 2150 GC 3  
Unique Paper Code : 32223909  
Name of the Paper: : Weather Forecasting - SEC  
Name of the Course : B.Sc. (Hons) Physics CBCS  
Semester : III

Time: 3 Hours

Max Marks:75

Instructions for candidates

1. Write your Roll Number on the top immediately on receipt of this question paper
2. Attempt any five questions. Question 1 is compulsory. All questions carry equal marks.

1. Attempt any five from the following - (3x5)
  - a) What is the estimated rise in temperature in last 100 years due to global warming?
  - b) What are particulate matters? Differentiate between PM 2.5 and PM 10 that causes air pollution, what should be their range for a good air quality?
  - c) Define lapse rate. Why temperature decreases with altitude in the troposphere.
  - d) Name the temperature sensors used in radiosonde measurements, Explain cyclonic and anticyclonic circulation.
  - e) How the satellites are useful for weather forecasting, give a comment on it.
  - f) Define Acid rain, how does it form and what are the consequences from environment point of view?
2. Draw a diagram that depicts the temperature variation with height up to 100 km altitude. Name the different layers formed and their expected heights in the tropical region. Explain the variability of temperature in these different layers. (5,3,7)
3. a) What are the methods to take air temperature observations? What is the routine network operated by India meteorological department for preparing weather charts over India? 4,4  
b) What are the instruments and methods to measure wind speed and direction , humidity and rainfall give a detailed account. 7

4. Explain global wind systems, depict on a globe what are the main wind systems in general. What are the latitudes and heights region in which different well known fronts are formed. 3,4,8
5. What do you understand by a term Climate change? Give a description how climate is changed over a period of time in a particular region. Why ozone is important and in which height region it is formed in the atmosphere? Ozone is useful or harmful from climate point of view give an account. 2, 3, 4, 5
6. What is the importance of measuring meteorological parameters? What do you understand by a medium range weather forecast? In which band of frequencies satellites are used to give information about the clouds and water vapors etc., name some of the satellites which are used by India Meteorological department to provide weather information . 5, 3, 7