6. Discuss how environmental physics supports pollutant monitoring in aquatic and atmospheric domains. Provide suitable data-based examples. (15)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5825 **K**

Unique Paper Code : 2182011102

Name of the Paper : Environmental Physics (DSC-2)

Name of the Course : **B.Sc. (H) Environmental Sciences (Core)**

Semester : I

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions.
3. **All** questions carry equal marks.

1. Write short notes on **any three** of the following:

(5×3=15)

(a) Black body radiation

(b) Atmospheric lapse rate (dry and moist)

(c) Diffusion in soils

(d) Macroscopic flows in ecosystems

2. Differentiate between **any three** of the following:

(5×3=15)

(a) Solar cell and solar panel

(b) Soil heat flow and soil moisture retention

(c) Turbulent vs. laminar flow

(d) Open vs. simulated ecosystems

3. (a) Describe the structure and function of the atmosphere in regulating temperature and pressure. (10)

(b) Explain the greenhouse effect with examples of radiative forcing. (5)

4. (a) Explain Darcy's equation and the factors affecting water movement through soils. (10)

(b) Define hydraulic potential and give one environmental application. (5)

5. (a) What are the energy balance components of an ecosystem? Explain how they are measured. (10)

(b) What is the significance of plant water uptake efficiency? (5)