Registration Number:

Date & session:

**ST JOSEPH’S UNIVERSITY, BENGALURU - 27**

**M.Sc. ENVIRONMENTAL SCIENCE AND SUSTAINABILITY – I SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November/December 2023)**

**ESS 7122 – ATMOSPHERIC SCIENCES**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains ONE printed page and THREE parts**

***Instruction: Draw diagrams wherever necessary***

**PART – A**

**Answer any FIVE of the following 5q X 2m = 10m**

1. List the laws of radiation.
2. What is wet-adiabatic lapse rate?
3. List the types of scattering of light.
4. What is an aerosol? Mention any two atmospheric aerosols.
5. Define Meteorology? List the meteorological parameters.
6. Differentiate between cirrus and alto-cumulus clouds.
7. What is an Air Quality Index? Mention any four parameters considered in AQI.

**PART – B**

**Write explanatory notes on any FOUR of the following 4q X 5m = 20m**

1. Terrestrial radiation
2. Atmospheric thermodynamics
3. Acid rain – formation and effects
4. Koppen’s climate classification
5. Electric vehicles – pros and cons
6. Emission inventories

**PART – C**

**Answer ALL of the following 2q X 10m = 20m**

1. Write explanatory notes on types of Plumes.

**OR**

Explain the cloud formation process. Present a diagrammatic account of the types of clouds. (4+6)

1. Explain the construction and working of Electrostatic precipitators.

**OR**

Discuss the parameters monitored and equipment used stack monitoring.