

Five-Year Integrated M. Sc. Examination 2022

Earth and Environmental Science

Semester: V

Paper: EES-3-5-1

Subject: Climatology and Climate Change

Time: 4 Hours

Full Marks: 80

Questions are of value as indicated in the margin

Answer **Question No.1** and **any four** from the rest.

1. Write short notes on **any four** of the following. 4 X 4 = 16
 - a) Scale of meteorology
 - b) Vertical clouds
 - c) Pressure gradient force
 - d) Global warming potential
 - e) Isotherm
 - f) Thermo-haline circulation
2. Explain the conditions necessary for precipitation. Write about the different types of precipitation. 6 + 10 = 16
3. a) Give a brief description of the factors that affect the distribution of insolation.
b) Explain the heat budget of the earth. 6 + 10 = 16
4. a) What is the three cell model of atmospheric circulation?
b) Explain the various processes involved in global atmospheric circulation. 4 + 12 = 16
5. a) Write a note on 'ENSO'.
b) Give an account of the past climate history of earth. 8 + 8 = 16
6. Define plume? Discuss various types of plumes you have studied with respect to lapse rate. 2 + 14 = 16
7. What are meant by greenhouse effect and global warming? Illustrate the consequence of global warming. 4 + 12 = 16