Climate Change & its Implications (CCI)

Mid Exam **Maximum Marks: 20**

Batch-1

Answer all questions

(Each question carries 5 marks)

1) Assuming an exponential pressure and density dependence with H=7.13 km, estimate the heights in the atmosphere at which (a) the air density is equal to 1.02 kg/m^3 and (b) the height at which the pressure is equal to 1.15 hPa. [Earth's radius=6371 km]

2) Estimate how much the sea level would rise if the entire Arctic ice sheet were to melt. Area covered by Arctic sea ice is 3.01% of the area of the surface of the Earth. The land area is 28.5% of the surface of Earth. [Earth's radius=6371 km; mass of Artic ice sheet=0.04 $\times 10^3$ kg/m^2]

3) Briefly discuss the different Earth system components with necessary illustrations.

4) What is the difference between climate variability and climate change? Briefly discuss the natural reasons for climate change.