Q7. SET B

An air conditioning system is working on two mode control system. The room temperature is to be maintained at 25 deg. C, with a neutral zone of ±10%. The room temperature is sensed by an RTD with a lag of 0.5 min. When the cooling system in ON, the rate of cooling of the room is 4 deg.C drop per minute. When the cooling system is OFF, the temperature rises with a rate of 3 deg.C per min. Plot the temperature variation curve and find the oscillation period of the temperature. Also show the ON/OFF cycle cooling system on the time graph. [6]