**MR3252: Tropical Meteorology**

Note-Taking Questions for Lecture Series 2

1. What phase changes of water release latent heat and are associated with, respectively, upward and downward motion?
2. As water vapor concentration in the atmosphere increase, does the rate of radiative cooling in the non-cloudy sky increase or decrease?
3. What is the difference between a barotropic mode and a baroclinic mode?
4. How do baroclinic modes in the atmosphere relate to the life cycle of convection?
5. How do streamfunctions relate to vorticity?
6. Why does convection, on average, tend to be deeper and stratiform regions larger at night?
7. What role do anvil clouds (laterally extensive cirrus clouds) play on diabatic heating?
8. Over the inter-island seas of the West Pacific (Banda Sea, South China Sea, etc.), what dictates the times of day during which convection is strongest over land and over ocean?
9. What are cold pools? Why do they form?