Answer the following questions:

1. What is rational agent? How AI is different from machine learning and deep learning?   6

3. Suppose, you are developing an intelligent agent for diagnosis Covid-19.   6+8
    a. Describe the PEAS for the agent "Covid-19 Diagnosis System".
    b. Determine each of the following properties of this task environment:
    i) fully observable or partially observable, ii) deterministic or stochastic, iii) episodic or
    sequential, iv) static, dynamic, or semi-dynamic v) discrete or continuous, vi) single agent or
    multi-agent. Explain your answer with your own logic.