Name: _____

Part III: Simulation [/12]

1) **[1 Points]** Which is a correct definition of Discrete event simulation (DES)?
   A. It is an approximate imitation of the operation of a real-world process or system over time.
   B. It is the modeling of systems in which state variables change only at a discrete points in time.

2) **[1 Point]** What DES can do in a Smart Factory ?
   A. To improve process.
   B. To look advanced with a virtual version of the factory.

3) **[1 Point]** When building a simulation model, how much details should you include?
   A. As precise as possible
   B. As precise as needed
   C. As precise as you like

4) **[1 Point]** What are the relation between simulation and digital twin?
   A. They are the same thing.
   B. Simulation focuses on what could happen in the real world (what-if scenario), but not what is currently happening. In the manufacturing context, a Digital Twin can be used for monitoring, control, diagnostics, and prediction, other than just simulation.

5) **[4 Points]** What are the difference between simulation and optimization?

6) **[4 Points]** Please list at least 4 Benefits of Simulation in Industry 4.0.

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