Answer 1:

**DATABASE — Targeted population Anthropometric data**
- Anthropometric static and dynamic dimensions
- Biomechanical range of motion, force, torque etc.
- Comfort of range: Single joint and multiple joint

**Creating 3D Virtual environmental**
- Digital Human Model of 5th, 50th, 95th percentile male and female based on the anthropometric data of target population

**CAD Model of Bus**
- Design variables: Steps-ladder Dimensions (Length, breadth and Width of Ingress/Egress steps-ladder), Overhang holder & steps-ladder grip-holders - Dimensions, Seat dimension etc.

**Bus Information**
- Dimensions of bus, entry and exit doors, windows, seat, passageways, overhang holders etc.

**Final Design concept and prototype making**

**Documentation management**

**Ergonomic analysis and evaluation**
- **REACH ANALYSIS**: Hand reach to overhead holders, windows, door handle etc.
- **CLEARANCE AND INFERENCE**: Knee clearance between Knee height & chair, clearance in the passageway, leg clearance while seating in chair, lateral clearance between two individuals during ingress and egress, head clearance.
- **COMFORT ANALYSIS**: Postural analysis, and comfort range of motion, Ingress-Egress from/to the seat & Hand Reach of overhead Handholds.

**Redesign and modification**

**Pass**

**Failed**
Answer 2:

**Human motion Simulation**

**Creating 3D Virtual environmental**

- CAD model of my Study table & chair:
  - Design variables: Table leg Height, Table working surface Height, Chair seat pan, Chair seat Depth, Chair Seat backrest, book shelf etc.

- Study room, table, chair Information: Dimensions of Table, chair, book shelf, room dimensions, etc.

**My Digital Human Model based on my Anthropometric Data**

**DATABASE - My Anthropometric Data**

- Anthropometric static and dynamic dimensions
- Biomechanical range of motion, force, torque etc.
- Comfort of range: Single joint and multiple joint

**Ergonomic analysis and evaluation**

- REACH ANALYSIS: Hand reach of table drawers & Table working surface (first to fourth reach zones)
- VISION ANALYSIS: Binocular vision analysis at viewing distance (46 cm to 76 cm) with comfortable eye moment around the first reach zone of the table
- CLEARANCE AND INFERENCES: Knee clearance between Knee height & Table leg Height
- COMFORT ANALYSIS: RULA Postural analysis, since lower body is fixed

**Documentation management**

**Final Design concept and prototype making**

Decision:
- Pass
- Failed

Redesign and modification