# Training Curriculum for Customer Support Engineers

1. **Basic knowledge of the HDD**
   P1/Components and its functions

2. **Basic knowledge of the HDD manufacturing tools**
   P1/Concepts and functions

3. **Basic skill for the maintenance**
   P1/Soldering, Screw fastening, Clamping
   P2/Asembling, Wiring

4. **Electrical Components**
   P1/Simple circuit diagram, Electrical components and its samples
   P2/Circuit diagram

5. **PLC/HMI software**
   P1/Download and upload the software
   P2/Modification of the software

6. **Trouble shooting/Electrical**
   P2/Connector disengagement
   P3/Failure of the electrical components, Failure analysis

7. **Mechanical components**
   P2/Assembly drawings, parts drawings, Mechanical commercial parts and its samples

8. **Position teaching**
   P1/IAI positioning by teaching pendant
   P2/Components positioning by PLC

9. **Mechanical adjustment**
   P2/Mechanical alignment and tuning

10. **Air circuits**
    P1/Air circuit diagram, Components and its samples

11. **Driver controller**
    P2/Tecnart controllers

12. **Sensors**
    P1/Name and function of the Position sensors-Laser or Mechanical, Vacuum sensors, Aria sensors,
       another sensors

13. **Trouble shooting/Mechanical**
    P2/Parts wearing
    P3/Failure analysis

14. **Mechanical CAD**
    P1/Basic for 2D CAD
    P2/Basic for 3D CAD

15. **Machining parts fabrications**
    P3/Technogies of the fabrications, Quality management

16. **Keys to improve the yield**
    P3/Basic idea for improvement

17. **Realization of the conceptual design for the customer requirements**
    P3/Basic design methods of the tools

18. **Commercial activities**
    P1/Basic understandings which engineers should know
    P2/Communication routine

19. **Parts localization**
    P3/Transuction rule, Vender management

**Phases and terms of the training**
P1: Sept.-Nov. 2005   P2: Spring of 2006   P3: TBD