

## **Management and Design Trainees IIT Kharagpur Module**

Total duration: 3 weeks

### **1. Aircraft power generation distribution and control:**

- a. AC/DC power supplies and conversion,
- b. Wiring and power distribution systems,
- c. Ground power units,
- d. AC/DC drive controller systems,
- e. High voltage power generation and distribution in aircraft,
- f. Electric propulsion and more/all electric aircraft

### **2. Reliability analysis of aircraft electrical and electronic systems:**

- a. Basic Reliability Terms and Mathematics,
- b. Estimation of Basic Reliability Indices from Failure Data,
- c. Reliability Prediction of Electronic Systems using MIL HDBK and other relevant databases,
- d. Reliability Evaluations of Few Basic Electrical/ Electronic System Configurations: Series, parallel, k out of n, standby etc.
- e. Reliability Specifications, Reliability Apportionment Techniques,
- f. Failure Mode, Effects and Criticality Analysis for Electrical/Electronic Assemblies,
- g. Accelerated Life Testing,
- h. Common Ways to Improve Electronic System Reliability.