**Questions Time allowed:2hrs**

1. Explain the concept of linear programming and its applications to engineering.

 **3Marks**

1. A & B Company manufactures printers and keyboards. The contribution margins of the printer and keyboard are 30 naira and 20 naira, respectively. Two types of skilled labour are required to manufacture these products: soldering and assembling. A printer requires 2 hours of soldering and 1 hour of assembling. A keyboard requires 1 hour of soldering and 1 hour of assembling. A & B Company has 1,000 soldering hours and 800 assembling hours available per week. There are no constraints on the supply of raw materials. Demand for keyboards is unlimited, but at most 350 printers are sold each week. Determine the best fit values in order to maximize its weekly total contribution margin. **12 Marks**

**Note:** Bonus mark for clarity and uniqueness. Solution can be handwritten or typed, but must be saved as pdf and submit via the assignment link online.