**Military College of Signals**

**CS Department**

**Automata Theory and Formal Languages**

**Spring 2011 BESE 14**

**Assignment 01 – Languages**

**Solution**

**Due date: *11th Feb, 2011***

**Q:** What is the language identified by the given set if the alphabet is and .

**A:** As the values of ‘n’ and ‘m’ both do not have an upper limit, the Language is infinite. Also, the order tells that a group of ‘n’ number of a’s is followed by the exactly n number of b’s, which is followed by ‘m’ number of a’s is followed by the exactly m numbers of b’s. Hence the following are included in it are: -

1. Abab
2. Ab
3. λ
4. aabbab
5. aaabbbaaabbb

Similarly, the following are not included in the language:-

1. bab
2. aaabbaaabbb