

## **MA-411: CONTINUOUS GROUPS**

Continuous Groups;  $Gl(n, \mathbb{R})$ ,  $Gl(n, \mathbb{C})$ ,  $So(p, q)$ ,  $Sp(2n)$ ; generalities on continuous groups; groups of isometries, classification of two and three dimensional Euclidean space according to their isometries; introduction to Lie groups with special emphasis on matrix Lie groups; relationship of isometries and Lie group; theorem of Cartan; correspondence of continuous groups with Lie algebras; classification of groups of low dimensions; homogeneous spaces and orbit types; curvature of invariant metrics on Lie groups and homogeneous spaces.

### **RECOMMENDED BOOKS:**

1. Bredon, G.E., Introduction to compact transformation groups, Academic Press, 1972.
2. Eisenhart, L.P., Continuous groups of transformations, Princeton U.P., 1933.
3. Pontrjagin, L.S., Topological groups, Princeton University Press, 1939.
4. Husain Taqdir., Introduction to Topological Groups, W.B. Saunders's Company, 1966.
5. Miller Willard, Jr., Symmetry groups and their application, Academic Press New York and London 1972.