South East Asian J. of Mathematics and Mathematical Sciences
Vol. 17, Proceedings (2021), pp. 141-148

ISSN (Online): 2582-0850

ISSN (Print): 0972-7752

REPRESENTATION OF COVERING SPACES IN ALGEBRAIC TOPOLOGY

C. R. Parvathy and K. R. Vidhya

Department of Mathematics,
PSGR Krishnammal College for Women,
Coimbatore – 641004, Tamil Nadu, INDIA

E-mail : parvathytopo@gmail.com, krvidhyamani@gmail.com

(**Received:** *Aug. 08, 2021* **Accepted:** *Oct. 01, 2021* **Published:** *Nov. 30, 2021)*

Special Issue
Proceedings of International Virtual Conference on
"Mathematical Modelling, Analysis and Computing IC- MMAC- 2021"

Abstract: In this paper introduction to the covering spaces is given. We have proved some theorems and problems for the covering spaces. Examples related to the covering spaces are also discussed.

Keywords and Phrases: Homeomorphism, Evenly covered, Covering map or projection, Covering spaces, Local homeomorphism.

2020 Mathematics Subject Classification: 57M10, 57S05, 18F60, 54C05, 54C10, 97F50.

1. Introduction

The theory of covering spaces is one of the important topic in Algebraic Topology. This is common stage for the development of various branches of mathematics. Such as Differential geometry, The theory of Lie groups, and the theory Riemann surfaces [4]. In which the base space is an arbitrary topological space. For any even subspace of $\mathbb{R}^n$ has a trivial fundamental group. One of the most useful tool for some fundamental groups that are not trivial [3]. Let B be a topological space, a covering space of B consists of a space A and a continuous map ϕ of A onto B which satisfies a certain requirement [4]. Covering space is a pair of topological