

INTRODUCTION TO ALGEBRAIC TOPOLOGY (MTH-507)

QUIZ (05/02/2018)

Time: 50 minutes

Maximum Marks: 10

Attempt all questions. Use separate page for each answer.

Problem 1. Let $p : E \rightarrow B$ be a covering map, with E path connected. Show that if B is simply connected, then p is a homeomorphism. (4)

Problem 2. Show that a contractible space is path connected. Show that if X is contractible and Y is path connected, then $[X, Y]$ has a single element. (2+4)