

DIFFERENTIAL GEOMETRY OF CURVES AND SURFACES
(MTH 406)
ASSIGNMENT-7

SUBMISSION DATE: 16-03-2020

Problem-A. Submit an answer of all problems.

- (1) Let S be a surface and $p \in S$ be a point of S . If p is not an umbilic then show that there is a surface patch of S containing p that is ruled surface.
- (2) Solve exercise 8.4.1, from Chapter 8.
- (3) Solve exercise 9.1.1, 9.1.5 from Chapter 9.

Problem:B. You don't need to submit it.

- (1) Show that a unit speed curve on a surface is a geodesic if and only if its geodesic curvature is zero everywhere.
- (2) Show that any normal section of a surface is a geodesic.

Text Book: Elementary Differential Geometry, Andrew Pressley 2nd edition