Functions of Several Variable and Differential Geometry 2024 - Viva Voce Exam - Repeat

Maximum marks 16. Each question carries 2 marks

1. How do you reparametrize a parametrized curve defined on $(-1, 1)$ to a parametrized curve defined on $(2, 6)$.

2. Explain the tangent and normal spaces for an n-plane

3. What can you say about the existence and uniqueness of integral curves? Can they intersect at a point?

4. Write true or false with justification. Let S be an n-surface and $p \in S_p$. Then the derivative of the normal in the direction of v is a tangent vector.

5. Can a Möbius band be a 2-surface? why or why not?

6. Let S be the unioon of X- axis, Y-axis and a unit circle centred at origin. Express S as a level set of a function.

7. Explain surface of revolution.

8. Give an example of 2-surface and explain its tangent and normal spaces.