**Birla Institute of Technology and Science–Pilani, Hyderabad Campus**

**Second Semester, 2018-2019**

**Assignment II**

**Course No.:** MATH F342 **Course Title:** Differential Geometry

**Date of submission:** 02.03.2019 **Time:** 9.30 A.M. – 9.50 A.M.

**Day:** Saturday **Max. Marks:** 7

Notes: There are two questions. Answer all the questions. Marks for each question are given at the end of the question. Symbols carry the usual meaning as given in the text book. Your answer must adhere to the approach, formula contained in the scope of the course.

1. Parametrize with the parameter and derive the relation for which the curve has vertices. **[3]**

2. Show that the quadric

is a hyperboloid of one sheet if , and a hyperboloid of two sheets if .

Find the geometry for .  **[4]**

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**Instructions:**

1. The assignment to be submitted on **02.03.2019** during 9.30-9.50 AM in room number **I112** personally. Do not insert your sheet under the door of my office room or send through your friend. **Please bring your ID card.**
2. Write your answer sequentially and in A4 size paper. Write on both sides of the paper and put the page number.
3. Write your name and ID number at the top of the assignment sheet.
4. All the formulation, derivation must be according to the scope of the course handout and text book.
5. Do not ask for any kind of early/late submission.

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