Roll No……..….. **Total No. of Printed Pages: [1]**
Total No. of Questions: [11]

M. Tech Textile (Part Time) (Semester – 4th)
STRUCTURAL MECHANICS OF FABRICS
Subject Code: MTEXS1-203
Paper ID: [22201115]

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It carries 16 marks. It consists of 4 questions of 4 marks each.
2. Section B consist of 4 questions of 8 marks each. The student has to attempt any 3 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(4 marks each)**

Q1. What is the Fabric Cover Factor, and how does it influence textile engineering?
Q2. What are the key features of Sateen weaves in Cloth Geometry?
Q3. What are K-Values, and how do they relate to the geometry of knitted fabrics?
Q4. How is the Racetrack Section of Yarn analyzed in Cloth Geometry?

Section – B **(8 marks each)**

Q5. How do Twill weaves differ in Cloth Geometry from Plain weaves
Q6. How does the Elastic Thread Model contribute to fabric analysis?
Q7. How do the geometry and properties of weft knitted fabrics differ from other types of knitted fabrics?

Section – C **(10 marks each)**

Q8. Explain the significance of the Jammed Structure concept in understanding textile materials and their behavior during fabrication processes.
Q9. Discuss the relationship between the geometry of knitted fabrics and their physical and mechanical properties, considering parameters such as stitch density, loop size, yarn composition, and fabric structure.
Q10. Discuss the relationship between fabric structure and its tensile and tearing behavior, considering factors such as yarn type, weave pattern, and fabric finishing.