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I-1050

M.A. / M.Sc. (Previous) Examination, 2020

MATHEMATICS

(Optional - III)

(Differential Geometry of Manifolds)

Time Allowed : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 36

Note : Attempt any five questions. All questions carry equal marks.

Q. 1. Write down the differentiable manifolds with its type.

Q. 2. Explaini the properties of exterior derivative.

Q. 3. Describe the topological group with example.

Q. 4. Explain : Tangent bundle.

Q. 5. Describe the Riemannian manifolds with example.

Q. 6. State and prove that the Schur's theorem.

Q. 7. Describe generalized Gauss's equation.

Q. 8. Explain : Mainardi - Codazzi equations (generalized type).

Q. 9. Explain : Nijenhuis tensor

Q. 10. Describe almost complex manifolds.