

M.A./M.Sc. Semester II Examination, 2020 (CBCS)
Subject: Mathematics
Course: MMATG 210 [Numerical Methods (Theory)]

Time: 1 Hour

Full Marks: 20

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

[Notation and symbols have their usual meaning]

Answer any **two** questions. Only **first two** answers will be evaluated.

10×2= 20

1. (a) Derive the Euler-Maclaurin's formula for numerical integration. [5]
(b) Discuss power method to find the largest eigen value of a square matrix of order n . [5]
2. Use the finite difference method to solve the second order boundary value problem and calculate its error term. [10]
3. (a) What do you mean by multistep method? [2]
(b) Discuss Adams-Bashforth method for solving initial value problem. [8]