FACULTY OF SCIENCES

SYLLABUS

FOR

INTERDISCIPLINARY COURSE IN
MATHEMATICS (UG)

Examinations: 2019 - 20

GURU NANAK DEV UNIVERSITY
AMRITSAR

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Please visit the University website time to time.
Interdisciplinary Course in Mathematics (UG)

NUMERICAL METHODS (MTL 001)

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Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section – A

Section - B
The Iteration Method and accelerated convergence, Solution of system of linear equations: Gaussian Elimination method, Gauss Jordan, Gauss-Seidel Method, Crout’s Reduction method, Interpolation: Finite difference operators, Newton’s Forward and backward difference interpolation, Lagrange’s Method,

Section – C
Divided differences, Numerical Integration: Quadrature, Trapezoidal Rule, Simpson’s Rules, Weddle’s rule, Romberg Integration,

Section – D

Books Recommended:
1. Numerical Methods in Engineering and Science: B.S. Grewal
2. Introductory methods of Numerical Analysis, S.S. Sastry