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**A. K. Singh and G. R. Thorpe**

A GENERAL FORMULA FOR NUMERICAL INTEGRATION  
OF A FUNCTION 1-7

**Abstract:** A general formula for numerical integration of a function is derived of which the trapezoidal formula, Simpson's 1/3 and 3/8-formula and other related formulae are particular cases.

**Anand P. Singh and J. L. Sharma**

ON FACTORIZATION OF MEROMORPHIC FUNCTIONS 9-15

**Abstract:** An entire function  $F$  with zeros (considered as divisors) is said to be pseudo-prime in divisor sense (right-prime in divisor sense; left-prime in divisor sense) if for every relation of the form

$$F(z) = f(g(z))e^{A(z)}$$

where  $f, g (\neq \text{constant})$ , and  $A$  are entire functions we can deduce the following assertions :  $f$  has only finite number of zeros or  $g$  is a polynomial ( $g$  is a linear polynomial whenever  $f$  has infinite number of zeros;  $f$  has just one simple zero whenever  $g$  is transcendental, respectively).

In this paper we extend this definition to meromorphic functions and investigate the pseudo-primeness, right-primeness and left-primeness in divisor sense for entire and meromorphic functions whose zeros and poles are situated in the Picard sets of entire

functions.

**Ashok Kumar Gupta and Ashok Kumar Mittal**

Computation of the largest real root of any integer monic polynomial using replacement sequences

17-23

**Abstract:** To every integer monic polynomial of degree  $m$  can be associated a ‘replacement rule’ that generates a word  $W^*$  from another word  $W$  consisting of symbols belonging to a finite ‘alphabet’ of size  $2m$ . This rule applied iteratively on almost any initial word  $W_0$ , yields a sequence of words  $\{W_i\}$ . From a count of different symbols in the word  $W_i$ , one can obtain a rational approximate to the largest real root of the polynomial. This method requires only ‘primitive’ operations like replacement of sequences and counting of symbols. No calculations using ‘advanced’ operations like multiplication, division, logarithms etc. are needed.

**B. S Jaiswal and V. M. Soundalgekar**

TRANSIENT CONVECTIVE FLOW PAST AN INFINITE VERTICAL  
OSCILLATING PLATE WITH TEMPERATURE GRADIENT DEPENDENT  
HEAT SOURCE

25-29

**Abstract:** An implicit finite-difference technique is applied to study the flow past an infinite vertical plate oscillating in its plane in the presence of a temperature gradient dependent heat source. Velocity and temperature profiles are shown graphically and it is observed that both velocity and temperature decrease with increasing the strength of heat source parameter and the prandtl number.

**J. L. López Bonilla, V. Gaftoi And G. Ovando**

GAUSSIAN CURVATURE AS AN EXACT DIVERGENCE AND  
GAUSS-BONNET'S THEOREM

31-33

**Abstract:** Using the fact in every 2-space the gaussian curvature is an exact divergence, we give an elementary proof of the known Gauss-Bonnet's Theorem with importance in differential surface geometry.

**J. M Khalagai and M. O. A. E. Otieno**

ON QUASIAFFINITY AND QUASIAFFINE INVERSES OF PARTIAL  
ISOMETRIES

35-40

**Abstract:** It is a well known fact in operator theory, that an invertible partial isometry is unitary. In this note we show that a relaxation of invertibility to the concept of quasiaffine inverse or mere quasiaffinity of a partial isometry will still give us the result that it is unitary. We also deduce results concerning quasi-similarity of partial isometries.

**P. N. Natarajan and V. Srinivasan**

ON GENERALIZED NÖRLUND METHODS IN NON-ARCHIMEDEAN  
FIELDS

41-46

**Abstract:** In the present paper we introduce generalized Nörlund methods in a complete, non-trivially valued, non-archimedean field and prove a few theorems on generalized Nörlund methods in such fields.

**Rajeev Taneja and N. C Jain**

MHD FLOW PAST AN OSCILLATING MAGNETISED PLATE IN SLIP  
FLOW REGIME.

47-58

**Abstract:** Flow of an electrically conducting fluid past an oscillating plate in slip flow regime under the influence of fluctuating magnetic field has been carried out. Closed form solutions to the velocity field, magnetic field, current density and electric field have been derived. The effects of the different parameters on above solutions are studied graphically.

**R. B. Patel**

SOME PROPERTIES OF  $b$ -VEX FUNCTIONS

59-67

**Abstract:** In this paper some properties of  $b$ -vex functions are studied. Some results are given for a nonlinear optimization problem assuming the objective and constraint function to be  $b$ -vex.

**Terrance Quinn**

FROM SCHRODINGER TO DIRAC : A STUDY OF RELATIONS AND  
STATISTICS

69-100

**Abstract:** Analysis of the quantum theories given by Schrodinger, Heisenberg and Dirac reveal a general structure in which 'primary relation' can be distinguished from 'secondary determinations'. This has a bearing on several issues, including simultaneous measurement, uncertainly relations, Schrodinger's equation, Dirac's equation and general state space transformations.

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