CONTENTS

Abstract: We introduce the notion of semi-uniformly strongly prime near-rings. A notion that coincides with the notion of a 3-semiprime near-ring in the case of finite near-rings. It is still an open question as to if the 3-prime and 3-semiprime near-rings. give rise to the same radical. In this note we show that the uniformly strongly prime and semi-uniformly strongly prime near-rings give rise to the same radical.

Abstract: In this paper, we introduce a generalized pseudomonotone set-valued map, and consider existence of solutions to new classes of variational-like inequalities with the generalized pseudomonotone set-valued maps in reflexive Banach spaces using the KKM technique. We also show the solvability of the variational-like inequalities with the generalized semi-pseudomonotone set-valued maps in Banach spaces by using Kakutani's fixed point theorem. Our results extend and improve the corresponding results in [**1, 2, 6, 9, 22-24**].

Devendra Kumar

Approximation of generalized axisymmetric potentials
having fast growth   265-278

Abstract: The present paper deals with growth and approximation of solutions of certain elliptic partial differential equations. These solutions are called Generalized Axisymmetric Potentials (GASP's). The GASP's are taken to be regular in a finite hyperball and the influence of the growth of their maximum moduli on the rate of decay of their approximation errors in sup norm is studied. Author has obtained the characterizations of the q-order and lower q-order of a GASP, in terms of the coefficients occurring in its ultra-spherical harmonic expansion and rate of decay of their approximation errors. The results of Fryant [3] and Gilbert [4] are not applicable, when GASP's are not entire. Here an attempt has been made to study the growth of such GASP's.

Do Van Luu and Le Minh Tung

B-Preinvexity criteria and applications   279-300

Abstract: Some properties of locally Lipschitz B-preinvex functions defined on invex subsets of Banach spaces are established. Under suitable additional assumptions these necessary conditions are also sufficient conditions ensuring a locally Lipschitz function to be B-preinvex. Some applications on sufficient optimality conditions and duality are given.

J. S. Manhas

MULTIPLICATION OPERATORS ON NON-LOCALLY CONVEX

WEIGHTED SPACES OF CONTINUOUS FUNCTIONS   301-313

Abstract: Let V be a system of weights on a completely regular Hausdorff space X and let $B(E)$ be the space of all continuous linear operators on a Hausdorff topological vector space E. Let $CV_0(X, E)$ $(CV_b(X, E))$ be non-locally convex weighted spaces of E-valued continuous functions on X. Let $\pi : X \to B(E)$ and $\Psi : X \to E$ (E as a topological algebra) be operator-valued mappings and vector-valued mappings respectively. In the present paper, we characterize the invertible multiplication operators M_Ψ on $CV_0(X, E)$ (or $CV_b(X, E)$) induced by the mappings Ψ. Also, we give necessary and sufficient conditions for $M\pi$ and M_Ψ to be compact multiplication operators on $CV_0(X, E)$.

M. M. Pawar and B. N. Waphare

ENUMERATION OF NONISOMORPHIC LATTICES WITH EQUAL

NUMBER OF ELEMENTS AND EDGES   315-323

Abstract: The aim of this paper is to enumerate all nonisomorphic lattices with equal number of elements and edges (coverings). For this we introduce a concept of a 2-sum of a lattice and a chain, which gives a characterization of a class of nonisomorphic lattices with equal number of elements and edges, denoted by $\mathcal{L}_{n,\,n}$ and obtain a compact formula as follows:

$$\mid \mathcal{L}_{n,\,n} \mid = \frac{m(m-1)(4m+1)}{6} \quad \text{when } n = 2m+1,$$

$$= \frac{m(m-1)(4m-5)}{6} \quad \text{when } n = 2m.$$

Some consequences are listed.

S. D. Sharma and Rekha Singh

Abstract: In this paper, operator-valued functional Hilbert spaces are introduced and their reproducing kernel functions are obtained. These kernel functions are further used as effective tools to generalize conjugation theorem in the operator-valued setting.

D. D. Somashekara and Syeda Noor Fathima

Abstract: In the paper we obtain continued fraction expansions for the ratios of the basic bilateral series $2^{\Psi}2$ with some of its contiguous functions. As special cases of these continued fraction identities we obtain a number of continued fraction expansions which are analogous to the identities stated by Ramanujan in his "lost" notebook.

Stevo Stević

Abstract: In this paper we prove the following theorem.
Let $\alpha_i, i = 1, \cdots, k$, be real numbers; $\Sigma_{i=1}^{k}\alpha_i = 1, P_k(z) = z^k - \alpha_k z^{k-1} - \cdots - \alpha_1$ and let (x_n) be a real sequence such that

$$\lim_{n \to \infty}\left(x_{n+k} - \sum_{i=1}^{k} \alpha_i \, x_{n+k-i} \right) = 0.$$

Then the boundedness of (x_n) always implies $\lim_{n \to \infty}(x_{n+1} - x_n) = 0$ if and only if all the zeros of the polynomial $P_k(z)$ belong to the

set $\mathbf{C}\backslash\{z : \mid z \mid = 1, z \neq 1\}$.

Sumitra and Renu Chugh

A generalization of Banach contraction principle in
Menger PM spaces   369-372

Abstract: Iseki [**1**], Pande [**3**] and Singh [**4**] proved some common fixed point theorems for two continuous self mappings of a metric space with two metric functions. In this paper, we prove a fixed point theorem in Menger probabilistic-spaces with two classes of distribution functions.

****