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CONTENTS

Abstract: The KKM-map principle is used to prove a few results on variational inequalities. Several results are derived as corollaries and in the end a fixed point theorem is proved as an easy application.

Abstract: The concept of almost monotonic functions is used to obtain some results on integribility L_ϕ of Dirichlet series. These results generalize a number of known results on power series.

Abstract: A sharp estimate is obtained on the deficiency sums of meromorphic derivatives. For the proof we establish an inequality on the zeros and poles of a meromorphic function and its derivatives.

Abstract: Inherent in the Dynamic Programming formulation of the p-peg Tower of Hanoi problem ($p \geq 3$) is the assumption, known as *Frame's Conjecture*, which states that, in order to transfer the tower of $n(\geq 1)$ discs from the source peg, P_1, to the destination peg, P_p, the first step is to store a certain number of discs on some intermediate peg using all the p-pegs. The number of moves obtained under this scheme is called the *presumed minimum solution* (pms) This paper shows that the pms is indeed optimal (or at least as good as any other scheme) for the 4-peg Tower of Hanoi problem.

Abstract: We show that a continuous condensing non-selfmap on a sphere in an infinite dimensional Banach space has a fixed point if it satisfies the Leray-Schauder condition or other boundary condition.

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Zeqing Liu

Abstract: In this paper some fixed point theorems in compact Hausdorff spaces have been presented which extend some results of Jungck (1988, 1976, 1979) and Singh and Rao(1989).

A. Behera and Amrutmayee Mishra

Abstract: Deleanu, Frei and Hilton have developed the notion of generalized Adams completion in a categorical context. In this paper, by introducing "modulo a Serre class C of abelian groups" we obtain a tower of the Adams completions of a 1-connected based CW-complex and these Adams completions are characterized by the spaces of the tower. We also give a different procedure for constructing the tower and this method also gives a new procedure for the construction of the P-localization of a 1-connected space with respect to homology, where P denotes a fixed set of primes.

S. P. Arya and Neeru Singal

Abstract: The purpose of this paper is to generalize the well known locally finite sum theorem for properties in topological spaces to the setting of the theory of topological ordered spaces and to give some of its applications. In the process, we introduce the concepts of disjoint topological ordered sums, topological order property and quotient ordered mappings, The paper contains theorems concerning the preservation of the T_i-order separation axioms ($i = 1$ to 4) under disjoint topological ordered sums.

Goutam Chakraborty and P. R. Sengupta

Abstract: In this paper an attempt has been made to study unsteady flow of a visco-elastic Maxwell fluid in a long porous straight duct of rectangular cross-section under the action of periodic and transient pressure gradients and in the presence of a uniform transverse magnetic field of strength B_0. Towards solving the problem time and space co-ordinates have been non-dimensionalised and finite cosine transforms have been employed. Analytical expressions for velocity distribution and volume flow rate have been derived. Some particular cases of the flow depending on various extreme values of k (permeability of the porous medium) have been presented. The important results derived in this paper are in good agreement with the corresponding viscous flow problem when the visco-elastic parameter tends to zero.

N. C. Kalita

Abstract: Quadratic and cubic transformations for bibasic series are derived which on specialization yield summation formulae for dibasic series. A family of biorthogonal rational functions corresponding to one of the summation formulae is also obtained.

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