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## CONTENTS

**Nayandeep Deka Baruah**

ON SOME OF RAMANUJANS IDENTITIES FOR ETA-FUNCTIONS 253-266

**Abstract:** In this paper we prove five of Ramanujan's eta-function identities via other eta-function identities.

**B. D. Craven and B. Mond**

ON CONVERSE DUALITY AND INVEXITY 267-272

**Abstract:** Converse duality is proved, for constrained minimization problems where the functions have Lipschitz first derivatives. Both the Wolfe dual and the Mond-Weir dual are considered, and also an intermediate dual.

**U. C. DE and Bimal Krishna Majumdar**

NULL GEODESIC COLLINEATION IN A PSEUDO CONFORMALLY SYMMETRIC SPACE 273-276

**Abstract:** The object of this paper is to study null geodesic collineation in a pseudo conformally symmetric space. It is proved that if a pseudo conformally symmetric space of dimension  $n$  ( $n \geq 4$ ) admits a null geodesic collineation, whose associated vector is non-null and orthogonal to the associated vector of the null geodesic collineation, then the space is either conformally flat or the transformation is affine.

**S. S. Dragomir, Pranesh Kumar and S. P. Singh**

MATHEMATICAL INEQUALITIES WITH APPLICATIONS TO THE BETA AND GAMMA MAPPINGS-II 277-295

**Abstract:** Fundamental inequalities, such as Čebyšev's integral inequality for synchronous (asynchronous) mappings, Hölder's inequality and Grüss's integral inequality are applied to the estimation of moments and moment ratios of the beta and gamma random variables.

**Werner Kratz**

A TAUBERIAN THEOREM FOR THE BOREL METHOD 297-307

**Abstract:** Here we give short proofs of the well-known  $\sigma$ - and  $O$ - Tauberian theorems for the Borel method. While the proof of the  $\sigma$ -result is completely elementary, we use Vitali's theorem and some asymptotic analysis to derive the  $O$ -theorem.

**J. L. López-Bonilla, J. Morales and G. Ovando**

AN IDENTITY FOR  $R_4$  EMBEDDED INTO  $E_5$

309-312

**Abstract:** In this note we consider the second fundamental form  $b$  of a spacetime embedded into  $E_5$ . It is shown that the characteristic polynomial of  $b$  allows to obtain an identity which relates  $b$  with the intrinsic geometry of the  $R_4$  under analysis.

**Norihito Murakoshi, Kouei Sekigawa and Akira Yamada**

INTEGRABILITY OF ALMOST QUATERNIONIC MANIFOLDS

313-329

**Abstract:** Concerning the integrability of quaternionic almost Hermitian manifolds, the result that any quaternionic almost Kähler manifold is a quaternionic Kähler manifold due to N. J. Hitchin is known. In this paper, we give two generalizations of this result.

**Takashi Noiri**

REGULAR SET-CONNECTED FUNCTIONS

331-338

**Abstract:** Dontchev et al. [9] have introduced the notion of regular set-connected functions. In this paper, we obtain several properties of regular set-connected functions and investigate the relationship among regular set-connected functions and some related functions.

**H. N. Núñez-Yépez, J. López-Bonilla and A. L. Salas-Brito**

SOME PROPERTIES OF EINSTEIN-MAXWELL METRICS OF CLASS ONE

339-345

**Abstract:** It is shown that any Einstein-Maxwell spacetime of class one embedded into  $E_5$  should have a nonvanishing trace for the second fundamental form.

**Virgil Pescar and Shigeyoshi Owa**

SUFFICIENT CONDITIONS FOR UNIVALENCE OF CERTAIN INTEGRAL OPERATORS

347-351

**Abstract:** In this work considering the class of univalent functions defined by the conditions  $\left| \frac{z^2 f'(z)}{f^2(z)} - 1 \right| < 1, |z| < 1$ , where  $f(z) = z + a_2 z^2 + \dots$  is analytic in the unit disc  $U = \{z : |z| < 1\}$ , we obtain some results for the univalence of certain integral operators.

**R. M. Shortt**

A BASE SPACE APPROACH TO WEAK TOPOLOGIES AND SEQUENTIAL COMPACTNESS FOR SPACES OF VECTOR MEASURES

353-362

**Abstract:** Extending earlier work, we offer a general framework for the construction and analysis of weak topologies for spaces of Banach space-valued Borel measures on a Polish space. Emphasis is placed on connections between these weak vectorial topologies and the topology of the underlying space. For a certain class of Banach spaces, a reasonable characterization of sequentially compact sets of measures is obtained.

**S. M. Yahya**

ON PURITY OF A PAIR OF ABELIAN GROUPS

363-377

**Abstract:** The following two problems are discussed in this paper:

Given two homomorphisms of abelian groups,  $\phi : A' \rightarrow A, \Psi : B' \rightarrow B$ , under what conditions is the kernel of the induced map  $\phi \otimes \Psi : A' \otimes B' \rightarrow A \otimes B$  generated by monomials? And assuming  $\phi$  and  $\Psi$  to be monic, under what conditions is the map  $\phi \otimes \Psi$  monic?

**Taddesse Zegeye, S. C. Arora and M. P. Singh**

ON SLANT TOEPLITZ OPERATORS

379-385

**Abstract:** A slant Toeplitz operator  $A_\varphi$  with symbol  $\varphi$  in  $L^\infty(\partial D)$  is an operator whose representing matrix  $M = (a_{ij})$  is given by  $a_{ij} = \langle \varphi, z^{2i-j} \rangle$  where  $\langle \cdot, \cdot \rangle$  is the usual inner product on  $L^2(\partial D)$ . In addition to other algebraic properties, it is proved that a non-zero hyponormal operator cannot be a slant Toeplitz operator.

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