

**BULLETIN OF THE  
ALLAHABAD MATHEMATICAL SOCIETY**

Vol. 26, Part 2, 2011

---

**CONTENTS**

**Ryûki Matsuda**

ASCENTS AND DESCENTS OF SEMISTAR OPERATIONS  
AND LOCALIZING SYSTEMS OF MONOIDS 201-223

**Abstract:** We study ascents and descents of semistar operations and localizing systems for any extension monoids.

**Peter Danchev**

EXTENDING NICE BASES ON ULM SUBGROUPS OF ABELIAN  
p-GROUPS 225-228

**Abstract:** We prove that if  $G$  is an abelian  $p$ -groups and  $\alpha$  is an ordinal strictly less than  $\omega^2$  such that  $G/p^\alpha G$  is totally projective, then  $G$  has a nice basis uniquely when  $p^\alpha G$  has a nice basis.

**B. D. Acharya**

ON NOTIONS GENERALIZING COMBINATORIAL GRAPHS, WITH  
EMPHASIS ON LINEAR SYMMETRIC DIHYPERGRAPHS 229-258

**Abstract:** In this paper, we review different notions that generalize graphs and discuss the very nomenclature now existing in literature and then suggest a strategy by which these notions can be safely addressed to make discrete mathematics cohesively richer

to be inclusive as well as more accommodative to further enrichment. In this process, we present in the paper some new concepts, results and problems interwoven with its ongoing development.

**Vakeel A. Khan and Khalid Ebadullah**

ON A NEW DIFFERENCE SEQUENCE SPACE OF INVARIANT  
MEANS DEFINED BY ORLICZ FUNCTIONS 259-272

**Abstract:** The sequence space  $BV_\sigma$  was introduced and studied by Mursaleen [8]. In this article we extend  $BV_\sigma(M, p, r)$  to  $BV_\sigma(M, p, r, \Delta)$  and study some of the properties and inclusion relations on this space.

**Sushanta Kumar Mohanta**

FIXED POINTS AND PROPERTY  $P$  IN  $G$ -METRIC SPACES 273-284

**Abstract:** We prove some fixed point theorems and property  $P$  in  $G$ -metric spaces where, compared to others works, the completeness property is replaced with other conditions.

**B. D. Pant and S. Chauhan**

COMMON FIXED POINT THEOREMS FOR FAMILIES OF  
OCCASIONALLY WEAKLY COMPATIBLE MAPPINGS IN  
MENER SPACES AND APPLICATION 285-306

**Abstract:** In this paper, we prove common fixed point theorems for families of occasionally weakly compatible mappings (shortly, owc maps) in Menger spaces using implicit relation. We also present an application of our results to fuzzy metric spaces. Our results improve, extend and generalize the results of Kumar and Pant [A common fixed point theorem in probabilistic metric space

using implicit relation, Filomat, 22(2) (2008), 43-52], Pant and Chauhan [Common fixed point theorems for semicompatible mappings using implicit relation, Int. J. Math. Anal. (Ruse), 3(28) (2009), 1389-1398], Singh and Jain [Semicompatibility and fixed point theorems in fuzzy metric space using implicit relation, Int. J. Math. & Math. Sci., 2005(16) (2005), 2617-2629] and Aalam et al. [A common fixed point theorem in fuzzy metric space, Bull. Math. Anal. Appl., 2(4) (2010), 76-82].

**A. S. Parmar and M. P. Singh**

UNSTEADY FLOW OF VISCOUS INCOMPRESSIBLE FLUID  
BETWEEN TWO PARALLEL POROUS PLATES SUBJECTED  
TO INJECTION AND SUCTION

307-316

**Abstract:** An analysis is made of the unsteady flow of viscous incompressible fluid between two horizontally parallel porous plates (distance between plates  $<$  width of the plates) subjected to injection and suction. It is investigated here, In the present studies, the flow problem has two solutions and in each, main flow velocity and its average maximum and minimum values depend on time  $t$ .

**David E. Dobbs**

CHARACTERIZATIONS OF pm-RINGS AND mp-RINGS USING  
SUBDIRECT PRODUCTS

317-326

**Abstract:** Let  $\alpha$  be a nonzero cardinal number and  $A$  a (commutative unital) ring. Then each prime ideal of  $A$  is contained in at most  $\alpha$  maximal ideals of  $A$  if and only if the associated reduced ring of  $A$  is a subdirect product of a family  $\{B_i \mid i \in I\}$  of integral domains such that each  $B_i$  has at most  $\alpha$  maximal ideals and, for all minimal prime ideals  $P$  of  $A$ , there exists  $i \in I$  such that  $A_P \otimes_A B_i \neq 0$ . Taking  $\alpha = 1$  gives a characterization of the

pm-rings  $A$ . Somewhat dual characterizations are given for the  
mp-rings  $A$  and for a more general class of rings depending on  $\alpha$ .

\*\*\*\*\*