

ON IDEALS IN REGULAR TERNARY SEMIGROUPS

TAPAN K. DUTTA, SUKHENDU KAR AND BIMAL K. MAITY

Department of Pure Mathematics
University of Calcutta
35, Ballygunge Circular Road, Kolkata–700019, India

e-mail: duttatapankumar@yahoo.co.in

e-mail: karsukhendu@yahoo.co.in

e-mail: bkmaity2002@yahoo.co.in

Abstract

In this paper we study some interesting properties of regular ternary semigroups, completely regular ternary semigroups, intra-regular ternary semigroups and characterize them by using various ideals of ternary semigroups.

Keywords: ternary semigroup, ternary group, regular ternary semigroup, completely regular ternary semigroup, intra-regular ternary semigroup, semiprime ideal, bi-ideal.

2000 Mathematics Subject Classification: 20M17.

REFERENCES

- [1] M. Amyari and M.S. Moslehian, *Approximate homomorphisms of Ternary Semigroups*, *Lett. Math. Phys.* **77** (2006), 1–9.
- [2] T.K. Dutta and S. Kar, *On Regular Ternary Semirings*, *Advances in Algebra, Proceedings of the ICM Satellite Conference in Algebra and Related Topics*, World Scientific (2003), 343–355.
- [3] T.K. Dutta and S. Kar, *A Note On Regular Ternary Semirings*, *Kyungpook Mathematical Journal* **46** (3) 357–365.

- [4] J.M. Howie, *Fundamentals of Semigroup Theory*, Clarendon Press, Oxford, 1995.
- [5] J. Los, *On the extending of models I*, *Fundamenta Mathematicae* **42** (1955), 38–54.
- [6] M.S. Moslehian and L. Szekelyhidi, *Stability of ternary homomorphisms via generalized Jensen equation*, *Results in Math.* **49** (2006), 289–300.
- [7] J. von Neumann, *On regular rings*, *Proc. Nat. Acad. Sci. USA* **22** (1936), 707–713.
- [8] M.L. Santiago, *Some contributions to the study of ternary semigroups and semiheaps*, (Ph.D. Thesis, 1983, University of Madras).
- [9] F.M. Sioson, *Ideal theory in ternary semigroups*, *Math. Japonica* **10** (1965), 63–84.
- [10] Tamas Vasile, *Regular ternary rings*, *An. Stiin. Univ. Al. I. Cuza. Ia si Sec. Ia Mat.* **33** (2) (1987), 89–92.

Received 27 June 2007

Revised 31 July 2007