BI-INTERIOR IDEALS OF SEMIGROUPS

M. Murali Krishna Rao

Department of Mathematics
GIT, GITAM University
Visakhapatnam – 530 045, Andhra Pradesh, India

e-mail: mmarapureddy@gmail.com

Abstract

In this paper, as a further generalization of ideals, we introduce the notion of bi-interior ideal as a generalization of quasi ideal, bi-ideal and interior ideal of semigroup and study the properties of bi-interior ideals of semigroup, simple semigroup and regular semigroup.

Keywords: quasi ideal, bi-ideal, interior ideal, bi-interior ideal, bi-quasi ideal, regular semigroup, bi-interior simple semigroup.

2010 Mathematics Subject Classification: 20M17, 06F05.

References

[1] R.A. Good and D.R. Hughes, *Associated groups for a semigroup*, Bull. Amer. Math. Soc. **58** (1952) 624–625.

[2] K. Iseki, *Quasi-ideals in semirings without zero*, Proc. Japan Acad. **34** (1958) 79–84.

[3] W. Jantanan and T. Changphas, *On 0-minimal (0, 2)-bi-ideals*, Quasigroups and Related Systems **21** (2013) 83–90.

[4] S. Lajos, *On the bi-ideals in semigroups*, Proc. Japan Acad. **45** (1969) 710–712.

[5] S. Lajos and F.A. Szasz, *On the bi-ideals in associative ring*, Proc. Japan Acad. **46** (1970) 505–507.

[6] P. Palakawongna Ayutthaya and B. Pibaljommee, *Characterizations of ordered k-regular semirings by ordered quasi k-ideals*, Quasigroups and Related Systems **25** (2017) 109–120.

[7] M.M.K. Rao, *Bi-quasi-ideals and fuzzy bi-quasi ideals of Γ-semigroups*, Bull. Int. Math. Virtual Inst. **7** (2017) 231–242.

[8] A.M. Shabir and A. Batod, *A note on quasi ideal in semigroups*, Southeast Asian Bull. Math. **7** (2004) 923–928.

[9] O. Steinfeld, *Uher die quasi ideals*, Von halbgruppend Publ. Math., Debrecen **4** (1956) 262–275.