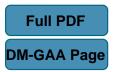
Discussiones Mathematicae General Algebra and Applications 42 (2022) 97–98 https://doi.org/10.7151/dmgaa.1383



## PRIME IDEALS OF TRANSITIVE BE-ALGEBRAS

M. BALA PRABHAKAR<sup>1</sup>

Department of Mathematics Aditya Engineering College (A), Surampalem Kakinada, Andhra Pradesh, India-533 437

e-mail: prabhakar\_mb@yahoo.co.in

S. KALESHA VALI

Department of Mathematics JNTUK University College of Engineering Vizianagaram, Andhra Pradesh, India-535003

e-mail: valijntuv@gmail.com

AND

M. SAMBASIVA RAO

Department of Mathematics MVGR College of Engineering (A), Chintalavalasa Vizianagaram, Andhra Pradesh, India-535 005

e-mail: mssraomaths35@rediffmail.com

## Abstract

The notion of prime ideals is introduced in transitive BE-algebras. Prime ideals are characterized with the help of principal ideals. Prime ideal theorem is stated and derived for BE-algebras. The concept of minimal prime ideals is introduced in transitive BE-algebras. A decomposition theorem of proper ideals into minimal prime ideals is derived.

Keywords: transitive BE-algebra, ideal, maximal ideal, prime ideal.

2010 Mathematics Subject Classification: 03G25.

<sup>&</sup>lt;sup>1</sup>Corresponding author.

## References

- S.S. Ahn, Y.H. Kim and J.M. Ko, *Filters in commutative BE-algebras*, Commun. Korean. Math. Soc. **27** (2012) 233–242. https://doi.org/10.4134/CKMS.2012.27.2.233
- Z. Ciloglu and Y. Ceven, Commutative and bounded BE-algebras, Algebra 2013 (2013), Article ID 473714, 5 pages. https://doi.org/10.1155/2013/473714
- [3] E.Y. Deeba, A characterization of complete BCK-algebras, Math. Seminar Notes, 7 (1979) 343–349.
- [4] E.Y. Deeba, Filter theory of BCK-algebras, Math. Japon. 25 (1980) 631–639.
- [5] K. Iseki and S. Tanaka, An introduction to the theory of BCK-algebras, Math. Japon. 23 (1979) 1–26.
- [6] Y.B. Jun, S.M. Hong, and J. Meng, Fuzzy BCK-filters, Math. Japon. 47 (1998) 45–49.
- H.S. Kim and Y.H. Kim, On BE-algebras, Sci. Math. Japon. 66 (2006) 1299–1302. https://doi.org/10.32219/isms.66.1\_-13
- [8] J. Meng, BCK-filters, Math. Japon. 44 (1996) 119–129.
- B.L. Meng, On filters in BE-algebras, Sci. Math. Japon. 71 (2010) 201–207. https://doi.org/10.32219/isms.71.2\_-201
- [10] C. Muresan, Dense Elements and Classes of Residuated Lattices, Bull. Math. Soc. Sci. Math. Roumanie Tome 53(101) (2010) 11–24. https://www.jstor.org/stable/43679159.
- P. Sun, Homomorphism theorems on dual ideals in BCK-algebras, Soo. J. Math. 26 (2000) 309–316.

Received 9 October 2020 Revised 8 December 2020 Accepted 8 December 2020