South East Asian J. of Math. & Math. Sci. **ISSN : 0972-7752**
Vol.13, No.1 2017, pp. 101-110

PARTITION THEORETIC INTERPRETATIONS OF CERTAIN IDENTITIES OF ROGERS-RAMANUJAN TYPE

K.B. Chand and V.P. Pande*

Department of mathematics
S.S.J College, Almora(UK) India

*Prof. and Head,
Department of mathematics
S.S.J College, Almora(UK) India
E-mail: gspant2008@gmail.com

Abstract: In this paper, certain identities of Rogers-Ramanujan type, taken from Slater's paper, have been interpreted by making use of additive number theory.

Keywords and Phrases: Partition theory, additive number theory, identity, Rogers-Ramanujan type identity.

2010 Mathematics Subject Classification: Primary 11P84; Secondary 05A15, 05A17.

1. Introduction, notations and definitions

As usual, for α and q complex numbers with $|q| < 1$, let

$$(\alpha;q)_0 = 1, \quad (\alpha;q)_n = \prod_{r=0}^{n-1}(1-\alpha q^r), \quad \text{for} \quad n \in N$$

and

$$(\alpha;q)_\infty = \prod_{r=0}^{\infty}(1-\alpha q^r).$$

Sometimes, for brevity, we write

$$(a_1;q)_n(a_2;q)_n...(a_r;q)_n = (a_1,a_2,...,a_r;q)_n$$

There are following three type of identities available in the literature
(i) Series = Product