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**On Certain Transformations of Basic**

**Hypergeometric Series with More**

**Than One Base**

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***1. Abstract :*** Denis[4] established certain transformations of truncated q-series. In this paper we make use of these transformations in a known series identity to establish certain transformations of bi-basic and polybasic hypergeometric series.

***2. Introduction :*** We have the following transformation, which can be deduced from Bailey’s transform by setting ,

  (2.1)

 We shall use the following known summation of truncated series

  (2.2)

(Agarwal[1])

  (2.3)

(Agarwal[1])

  (2.4)

(Agarwal[1])

where .

 Also we shall have the occasion to use the following known results

 (2.5)

(Denis[4])

 Denis[4] also showed that as , the above result reduces to the following transformation.

  (2.6)

Now we proceed to establish our result.

To do so let us take

 and  in (2.1) and use (2.2) and (2.5),

we get after some simplification

 

  (2.7)

 Again, if we take  in (2.1) and use (2.3), we get

 

 

  (2.8)

Now, if we take 

in (2.1) and use (2.4), we get

 

 

  (2.9)

***3. Special Cases :*** In this section we shall deduce some interesting special cases of the results established in section 2.

If we take in (2.7), we get the following transformation



=

 (3.1)

Now taking c=1 in above transformation, we get



(3.2)

after some simplifications.

Again if we take  in above transformation, we get

 

  (3.3)

Taking in (2.8), we get



 

  (3.4

.

If we take c=1 in above transformation, we get



(3.5)

If we take a→0 in above transformation, we get,



 (3.6)

Now taking  in (2.9), we get





  (3.7)

If we take c=1, in above transformation we get

 

 

  (3.8)

Similarly several other special cases can also be deduced.

***References :***

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