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Combinatorial properties for classes of Appell polynomials

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— **Abstract** ————————————————————

Our aim is to explicit the ordinary generating function of a class of Appell polynomials which extends the Euler and Genocchi ones. The used approach also works to determine the ordinary generating function of Bernoulli polynomials. In the sequel, we introduce the weighted generalized hyperharmonic numbers and give an expression of this class of polynomials in terms of like Stirling polynomials. We also study another unified approach to Apostol-Bernoulli and Apostol-Euler polynomials, we give some combinatorial and arithmetic properties and an extension of Raabe's Theorem.

Keywords and phrases Generating functions, Appell polynomials, Euler polynomials, Genocchi polynomials, Bernoulli polynomials, Stirling polynomials, weighted generalized hyperharmonic numbers, r-Stirling numbers, Raabe's Theorem.

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