

Problem Set 7, Nov 8, 2018

(Theory Questions Part)

3. Kernels :

1. Note that every term in the resulting polynomial is a product of kernels and that all these terms have positive coefficients. Hence the result follows by the two statements proved in class: namely that the positive sum of valid kernels is a valid kernel and that the product of valid kernels is a valid kernel.
2. We have $\exp(x) = \sum_{i \geq 0} \frac{x^i}{i!}$. We can hence apply the previous result concerning polynomials with positive coefficients and apply the limit.