Lemma: J admissible $\iff$ $IO_{Y'} = E^{\ell} I'$.

Propn: J is I-admissible $\iff$

$J^{(a_1-1)!}$ is $C(I, a_1)$-admissible.

When is $J < v(I)$? $\quad J = (x_1^{a_1}, \dots, x_k^{a_k})$

$I = (f_1, \dots, f_k)$

$f_i = \sum c_\alpha x_1^{\alpha_1} \dots x_n^{\alpha_n}$

$J < v(I) \iff v_E(f) \geq 1$

$\iff$ whenever $c_\alpha \neq 0$ $\quad \sum \frac{\alpha_i}{a_i} \geq 1$

easy consequences:

J is I_1, I_2 admissible

$\implies J$ is $I_1 + I_2$ admissible

J is I-adm. $\quad J^k$ is I^k adm.

J is I-admissible

$\implies J' = J^{\frac{a_1-1}{a_1}}$ is $D(I)$ admissible.

proof: $v_E\left(\frac{\partial(x_1^{\alpha_1} \cdots x_n^{\alpha_n})}{\partial x_j}\right) = \sum \frac{\alpha_i}{a_i} - \frac{1}{a_j} \geq \sum \frac{\alpha_i}{a_i} - \frac{1}{a_1}$

$\implies$ J adm for $I \implies J$ adm. for $C(I, a)$