is holomorphic since $f\,d\varphi$ must be holomorphic and $j \in L$. (If not, f does not cancel $z_L \cdot z_j$. and $f\,d\varphi$ is not holomorphic.)

It follows that φ_{JK}/z_J is holomorphic, as was to be proved. Q.E.D.

「 I think we don't need $\sum_{L,K} \psi_{LK} \frac{dz_L}{z_L} \wedge dz_K$,

from $d\varphi \equiv -\sum_{J,K} \sum_{j \in J} \frac{\varphi_{JK}}{z_J} \frac{dz_j}{z_j} \wedge \frac{dz_{I-J}}{z_{I-J}} \wedge dz_K$.

Since $z_I\, d\varphi$ is holomorphic, $\frac{\varphi_{JK}}{z_J}$ must be holomorphic for otherwise.

since $\{dz_j \wedge dz_{I-J} \wedge dz_K\}$ $j \in J$ is a set of linearly independent, and $j \in J$ 횡설 수설!

From the conclusion $z_{I-L}\, \psi_{LK} = \pm \sum_{j \in L} \frac{\varphi_{(I-L)\cup\{j\},K}}{z_j}$ is holomorphic, we see that

$$\frac{\varphi_{(I-L)\cup\{j\},K}}{z_j} \text{ is holomorphic for each } j \in L,$$

for suppose $\frac{\varphi_{(I-L)\cup\{j\},K}}{z_j}$ is not holomorphic $\Rightarrow$

it has singularities along $z_j = 0$, $\Rightarrow$ these singularities can not be cancelled by other $\frac{\varphi_{(I-L)\cup\{i\},K}}{z_i}$ $i \neq j$ except itself, i.e. $\frac{\varphi_{(I-L)\cup\{j\},K}}{z_j}$ must be holomorphic.

Put $L_j = (I-J) \cup \{j\}$. $\Rightarrow$ $J = (I - L_j) \cup \{j\}$, where $j \in L$ and $j \in J$.