In this study we have identified the interplanetary condition for intense geomagnetic storms and compared the five Dst forecast models. By investigating the interplanetary conditions of 82 intense geomagnetic storms from 1998 to 2006, we have compared many different criteria of interplanetary conditions for the occurrence of the intense geomagnetic storms. For this study, we consider three types of interplanetary conditions as follows: $B_z$, $E_y$, and their combination conditions. As a result, we present contingency tables to estimate statistical parameters such as probability of detection yes, false alarm ratio, bias, and critical success index. From a comparison of these statistical parameters, we find the promising interplanetary conditions for three types: $B_z \leq -10 \text{nT for } > 3 \text{ h}$, $E_y \geq 5 \text{ mV/m for } > 2 \text{ h}$, and $B_z \leq -15 \text{ nT or } E_y \geq 5 \text{ mV/m for } > 2 \text{ h}$. Then we compared the Dst forecast models: Burton et al. [1975], Fenrich and Luhmann [1998], O’Brien and McPherron [2000], Wang et al. [2003], and Temerin and Li [2001, 2006]. For comparison, we examined a linear correlation coefficient, RMS error, $\Delta_{\text{peak}}$, and $\Delta_{\text{peak}}/\Delta_{\text{time}}$. As a result, we found that Temerin and Li is mostly much better than the other models. Also, we classified storm events as five groups according to their interplanetary origin structures: 17 sMC, 18 SH, 10 SH+MC, 8 CIR, and 10 nonMC. We found that Temerin and Li model is also best for all structures.