$R(A, B, C, D, E, G)$

$F(A \to B\cancel{C}, B \to C, C \to BE\cancel{D}, \cancel{BD \to E}, E \to D, G \to E)$

①

$A \to B \rightleftharpoons C$

$D \leftarrow E \leftarrow G$

② $AB\cancel{C}\cancel{D}\cancel{E}G^+ = R$

$\underline{AG^+ = R}$

CK

③ $B^+ = BCED$

$(BE)^+ = BECD$

④ $R_1(A, B, C, E, D)$ 2NF

$F_1(A \to B, B \to C, C \to BE, E \to D)$

$R_2(G, E, A)$ not in 2NF

$\therefore G \to E$

Prime np

$R_{21}(G, E)$ $R_{22}(A, G)$

$F_{21}(G \to E)$ $F_{22} \varnothing$

2NF,   2NF,

3NF   3NF

⑤ $R_{11}(A, B)$

$F_{11}(A \to B)$

$R_{12}(B, C, D, E)$

$F_{12}(B \to C, C \to BE, E \to D)$

$R_{121}(E, D)$ $R_{122}(BCE)$

$F_{121}(E \to D)$ $R_{122}(B \to C, C \to BE)$

3NF   3NF

⑥ Yes $R_{11}, R_{121}, R_{122}, R_{21}, R_{22}$ all in $\underline{BCNF}$

⑦ Yes∴

$F_{11} \cup F_{121} \cup F_{122} \cup F_{21} \cup F_{22} = F$

$(A \to B) \cup (E \to D) \cup (B \to C, C \to BE) \cup (G \to E) \cup \varnothing = (A \to B, B \to C, C \to BE, E \to D, G \to E)$