

Decision Table for Chemical Plant Controller

Condition	Rule 1 ($T > T1$)	Rule 2 ($T < T2$)	Rule 3 ($P > P1$)	Rule 4 ($M > M$ & $T > T3$)	Rule 5 ($P > P3$ & $T > T1$)
Temperature > T1	Yes	No	No	No	Yes
Temperature < T2	No	Yes	No	No	No
Pressure > P1	No	No	Yes	No	No
Concentration > M & Temp > T3	No	No	No	Yes	No
Pressure > P3 & Temp > T1	No	No	No	No	Yes

Actions Taken

Water Shower ON

Heater ON

Heater OFF

Valve v1 OPEN

Valve v2 OPEN

Alarm Bells ON

Decision Table for Washing Machine Operation

Condition	Rule 1 (Waiting)	Rule 2 (Filling Water - Hot)	Rule 3 (Filling Water - Cold)	Rule 4 (Agitation)	Rule 5 (Drying)
Start Switch Pressed?	No	Yes	Yes	-	-

HotWash Switch ON?	-	Yes	No	-	-
Water Level High?	-	No	No	Yes	-
Timer Expired (Agitation)?	-	-	-	Yes	-
Stop Switch Pressed? (Agitation)	-	-	-	Yes	-
StartDrying Switch Pressed?	-	-	-	No	Yes
Timer Expired (Drying)?	-	-	-	-	Yes
Stop Switch Pressed? (Drying)	-	-	-	-	Yes

Actions Taken

Fill Tub with Hot
Water

Fill Tub with Cold
Water

Start Agitation
Motor

Stop Agitation

Start Hot Air
Blower (Drying)

Stop Drying

Explanation of Decision Rules:

1. Rule 1 (Waiting) – The machine waits until the start switch is pressed.
2. Rule 2 (Filling Hot Water) – If the HotWash switch is ON, the tub fills with hot water.
3. Rule 3 (Filling Cold Water) – If the HotWash switch is OFF, the tub fills with cold water.
4. Rule 4 (Agitation) – The machine agitates until either the timer expires or the stop switch is pressed.
5. Rule 5 (Drying) – After pressing the startDrying switch, the machine starts the hot air blower and stops when the timer expires or the stop switch is pressed.