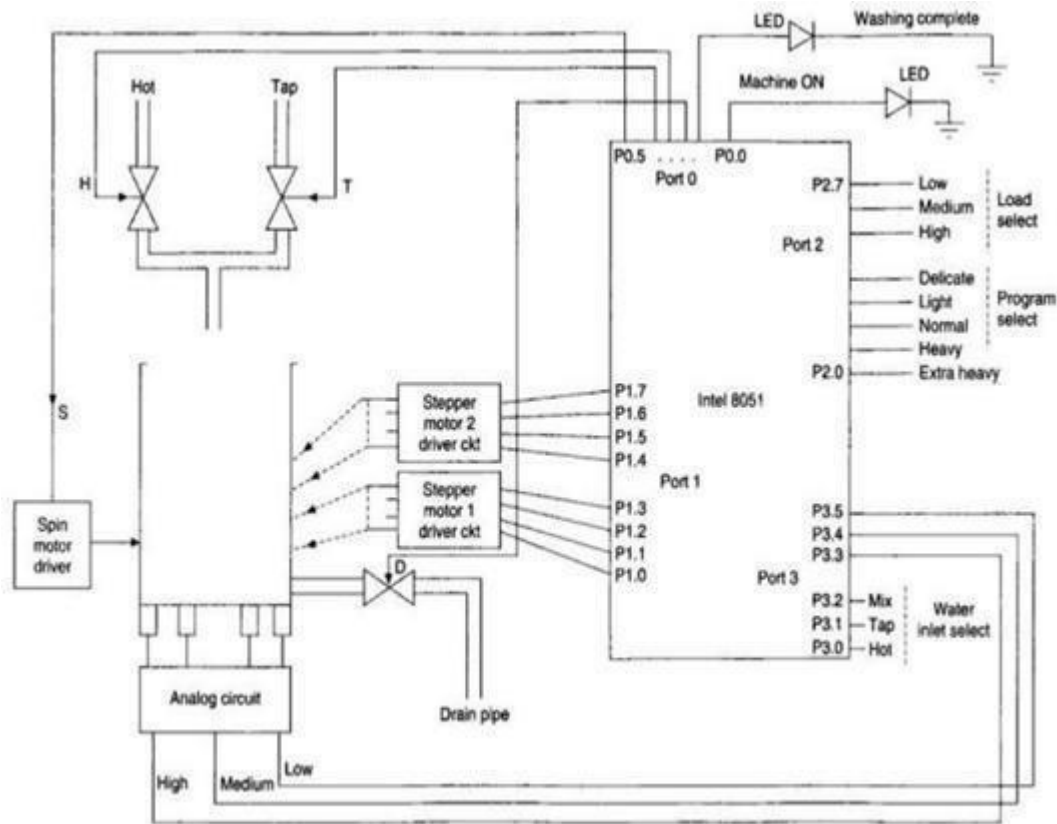


5.4 Washing Machine Controller

A washing machine is an electronic device that is designed to wash laundry like clothes, sheets, towels and other bedding. A washing machine is built with two steel tubs which are the inner tub and the outer tub whose main role is to prevent water from spilling to other parts of the machine.



Control knobs in washing machine:

- Load select knob
- Water inlet select knob
- Mode select knob
- Program select knob

Load select knob:- load Number of clothes low medium high Load select

Water inlet select knob:- hot cold both-mixed Water inlet

Mode select knob:- Save mode Normal mode Mode

Program select knob:- Heavy Clothes very dirty Normal Normal dirty clothes LIGHT For light dirty clothes Delicate For silk clothes

Machine Operations:-

Fill:- water will be filled by the pump as per the load knob selected.

Agitate:- The wash basket will rotate in a clockwise direction for 10 revolutions, After that basket will stop for 2 seconds, then rotate 10 revolutions in anticlockwise direction. The process will be continued for specified minutes in cycle table. **Drain:-** After agitation, the water and detergent are drained.

Washing Machine Drives/Connections:

The drives of the washing machine is connected to 8051 Microcontroller ports.

Hot/Cold Agitator motor drive

Agitator motor drive

Spin motor drive

High level

Medium level

Low level

Drain

Washing machine ON LED

Heavy

Normal

Light

Delicate

Hot

Program: Commands for washing-machine controller

```
SETB LCALL JNB SJMP P2.0
```

FILL_1 P1.0, LOOP_1 HEAVY Machine ON indication Machine fill with water 1st time Chkprogsetng knob for heavy.

If P1.0 is not set, jump to LOOP_1

If P1.0 is set, jump to HEAVY LOOP_1 JNB SJMP P1.1, LOOP_2 NORMAL Check progsetng knob for normal

If P1.1 is not set, jump to LOOP_2

If P1.1 is set, jump to NORM LOOP_2 JNB SJMP P1.2, LOOP_3 Chkprogsetng knob for normal.

If P1.2 is not set,jump to LOOP_3

If P1.2 is set,jump to LIGHT LOOP_3 JNB SJMP P1.3,LOOP_4 DELICATE Check prog set knob for delicate.

If P1.3is not set,jump to LOOP_4 If P1.2 is set,jump to delicate DISPLAY SETB P2.7

