



Fig. 5: Actual-size single side PCB for controller

1k resistors R3 and R4. When the output of IC2 at pin 3 is high, capacitor C2 charges through the 100k resistor R11 and discharges when the output is low. When the joystick is pressed, the voltage from capacitor C2 is applied to pins 2 and 6 via transistor T3, causing the output to change to the opposite state. When the joystick is released, the capacitor again charges to the new level at the output (pin 3).

The working of the circuit is simple. When 230V AC is applied across CON5, power LED1 turns on, and the circuit is enabled. To

operate the first appliance, you press the joystick, and the first appliance (APPL.1) will turn on. When you press the joystick again, APPL.1 will turn off, and LED2 will briefly blink. For operating the second appliance, you move the joystick to the left, and the second appliance (APPL.2) turns on. Moving the joystick left again will turn off APPL.2, with LED3 briefly blinking. The same process applies to the third, fourth, and fifth appliances, controlled by joystick movements in different directions, each associated with a respective LED.

Software

The source code is written in the Arduino IDE platform, version 1.8.5. Before uploading the given sketch to the Arduino Uno board, ensure that you select the correct board and port. Then upload the sketch file 'Joycon.ino' to the board. Fig. 4 shows a screenshot of the source code.

Construction and testing

After uploading the code to the Arduino and connecting the components as per the circuit diagram, you can now control the LEDs with the joystick.

