

Experiment 4 : Interfacing an ADC

Time : 1 day

- A) Construct ADC circuit to run in stand alone mode and verify its operation by applying its input using a potential divider. Output of the ADC to be observed by driving eight LEDs.

Points to note:

- i) Go through the data sheet of ADC0809 and 555 Timer.
- ii) Generate a clock (100 - 500 KHz) signal for the operation of ADC0809 by the IC 555 and feed it to the ADC.
- iii) Give a suitable input to the ADC.
- iv) Output of ADC to be connected to LEDs through 74245 and series resistors.

- B) Construct the circuit to access O/P of ADC through 8255 port (J3 / J7) and save the ADC O/P in a memory location 9070H. Compare this with a fixed value located at 9090H and generate a signal going through 8255 port (J3/J7) which is “HIGH” when the acquired data is greater than the fixed value and remains “LOW” otherwise.

Points to note:

- i) The signal generated can be verified by connecting a LED through resistor.