**APPENDIX**

**PRINTER PORT ACCESS WITH .NET**

Printer port of a PC is not accessible directly from windows application programs due to security reasons. Further, .NET programming languages do not have the built-in functions for accessing this port. However, an open source driver named InpOut32.dll enables .NET programs to do the task. InpOut32.dll interacts with Windows operating system kernels and gains the rights to access printer port hardware installed in a PC. In order to access printer port, the driver file is kept in System32 folder of Windows. This driver needs to be called only once in the beginning part of a .NET programs. One the driver has been called, printer port is access in the following manner:

**Out (Port address, data)** is used for writing a data to a port address. By using this function, a PC transmits data to peripheral devices or circuits connected to data lines or control lines of printer port.

**Examples:**

**Out(888, 255)**  
After executing this instruction the port register will have its flip-flops set to high logic states

**Out(888, 0)**  
After executing this instruction the port register will have its flip-flops set to low logic states

**Inp (Port address)** is used for reading data from a port address. By using this function, a PC receives data from peripheral devices or circuits connected to data lines or status lines of printer port.
Example:

D=Inp(888)

A data byte is read from port register available at address 888 and the byte is held in a variable D.

Details of using InpOut32.dll in Windows machine can be found in the following websites:

(i) http://logix4u.net/parallel-port/16-inpout32dll-for-windows-982000ntxp (accessed on 14.06.2013)

(ii) http://www.highrez.co.uk/Downloads/InpOut32/ (accessed on 14.06.2013)

(iii) http://janaxelson.com/parport.htm (accessed on 14.06.2013)