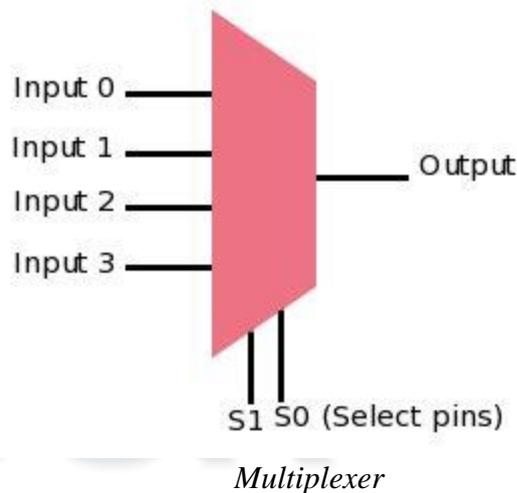


## **QUESTIONS AND ANSWERS ON MULTIPLEXERS**

### **Q.1 What is a multiplexer?**

Ans. Multiplexer is the device which has n inputs and only one output. It selects one of the input and passes to the output. There is one more terminal called as select input which decides which input terminal is to be selected to send output.



### **Q.2 A basic multiplexer principle can be demonstrated through the use of a?**

Ans. Rotary Switch.

### **Q.3 What is the function of an enable input on a multiplexer chip?**

Ans. To active the entire chip.

### **Q.4 Will multiplexing create additional harmonics in the system?**

ans. No, the total harmonic content while using multiplex mode is no worse than using normal SCR dimmer firing modes.

### **Q.5 Can i accidentally switch a dimmer to multiplex mode?**

Ans. To minimize the chances of this occurring, a number of steps are required to configure a dimmer for multiplexing at the sensor dimmer rack. Each action requires operator confirmation and dimmer status is clearly displayed at all times during setup.

**Q.6 Distinguish between the two basic multiplexing techniques?**

Ans. The two basic multiplexing techniques are:

1. Frequency division multiplexing(FDM)
2. Time division multiplexing (TDM)

**FDM** can be used with analog signals. A number of signals are carried simultaneously on the same medium by allocating to each signal a different frequency band.

**TDM** can be used with digital signals or analog signals carrying digital data. In TDM,data from various sources are carried in respective frames. Each frame consists of a set of time slots, and each source is assigned a time slot per frame.

**Q.7 Why guard bands are used in FDM?**

Ans. In FDM, a number of signals sent simultaneously on the same medium by allocating separate frequency band or channel to each signal. Guard bands are used to avoid interference between two successive channels.

**Q.8 Why sync pulse is required in TDM?**

Ans. In TDM, in each frame time slots are pre-assigned and are fixed for each input sources. In order to identify the beginning of each frame, a sync pulse is added at the beginning of every frame.

**Q.9 What is difference between Frequency Division multiplexing and Wave Division multiplexing?**

Ans. Wave-division multiplexing (WDM) is conceptually the same as FDM, except that the multiplexing and demultiplexing involves light signals transmitted through fibre-optic channels. The idea is the same: we are combining different frequency signals. However, the difference is that the frequencies are very high.

**Q.10 In what situation multiplexing is used?**

Ans. Multiplexing is used in situation where the transmitting media is having higher bandwidth, but the signals have lower bandwidth. Hence there is a possibility of sending number of signals simultaneously. In this situation multiplexing can be used to achieve the following goals:

- a) To send a large number of signals simultaneously.
- b) To reduce the cost of transmission.
- c) To make effective use of the available bandwidth.