





23. a) Discuss the working of thermal detector with neat diagrams and also discuss its types.

**(OR)**

b) Explain the principal of operation of photodiodes and discuss the parameters that affect the response time of photodetectors.

24. a) Explain the principle of operation of linear electrooptic modulators with a neat sketch and show how the phase shift determines the output.

**(OR)**

b) Discuss the various optical switching and logic devices with neat diagrams

25. a) Explain with block diagram the photoreceiver circuit, and also discuss the noises associated with it.

**(OR)**

b) (i) What is the need for integration of electronics and optics? (7)

(ii) Discuss the applications of optoelectronic integrated circuits. (7)

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