Name - Ayush Jain
SAP ID - 60004200132
DIV - J1

Exp - 4

Q. 1) Explain any one application based on this experiment. (Related to your core branch).

Ans 1) Photodiodes seem to be important components in simple day to day devices that we use

2) Photodiodes are used in consumer electronic devices such as compact disc (CD) players, smoke detectors and the receivers for infrared remote devices used to control equipment from televisions to air conditioners.

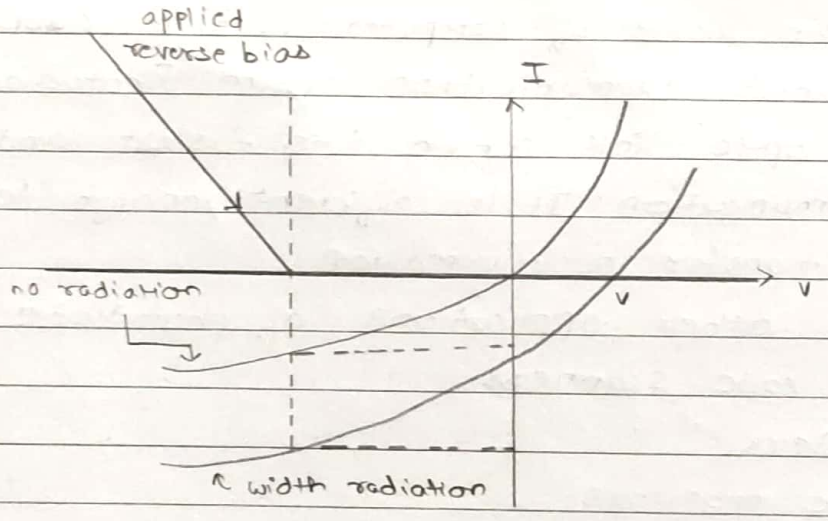
3) In the world of computers, it is crucial to maintain an established communication system. Photodiodes are used in fiber optic link which the fastest and safest method of communication. It is efficient enough to ensure safe and fast transfer of information.

4) Some other applications of photodiode are :

- Bar code scanners.
- Encoders
- Flame monitors.
- Auto-focus in cameras
- Light pens
- Position sensors.

2) Explain any other technique or experiment other than the one performed which will achieve the result and fulfill the aim of the experiment.

Ans. Principle: When a photon of sufficient energy strikes the diode, it excites the electron, thereby creating a free e^- and hole. If the absorption occurs in the function's depletion layer, these carriers are swept from the junction by the built in field of the depletion region.



Procedure: Photodiode is connected in reverse bias arrangement and applied voltage across photodiode is varied and corresponding current is measured for zero illumination. Result is plotted on graph. Now light is made to fall on the photodiode and corresponding reverse I-V characteristics of photodiode are tabulated and plotted on the graph.

Instruments: Power supply, voltmeter, micro-ammeter, photodiode light source, provision to vary intensity of light source, block box to hold photodiode and source.