Victoria University
Of
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program: Bsc in CSE

Course title: Electrical and Electronics Devices

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Ans To The Q. NO. 1(a)

The Basic devices of Electronics some of the most commonly used electronic components are resistors, capacitors, inductors, diodes LED, transistors, crystals and oscillators electromechanical components like relays and Switches, ICs and connectors. These components have leads and are available in specific standardized packages, that the designer can choose to suit his application. SMT and through hole are the two types of mounting technique used to place components on a PCB.

Ans to The Q. NO. 1(b)

The difference between Electrical and Electronics Devices:—

Electrical Device: *An electrical device utilizes electrical energy for basic operations like heating or mechanical work.

* Electrical devices, like heaters and motors are employed for tasks requiring basic energy conversion.

* An electrical device is a system or apparatus that utilizes electrical energy for specific functions. These devices typically convert electrical energy into other forms such as heat mechanical work, or light, to perform their intended tasks

* Heaters, Fans, motors

Electronic device

* An electronic device employs electronic circuit to process and control information enabling complex functions such as computing communication and automation using semiconductor components like transistors and integrated circuits.
* Electronic devices such as computer and smartphones are used for information processing communication and automation in daily life.
* An electronic device is a system or apparatus that relies on electronic circuit often utilizing semiconductors to process and control information
* Computer, Smartphones, television.

Ans to The Q.NO. 1(c)

Reverse and Forward Bias

Reverse Bias:

* The external voltage across the Semi-conductor diode is in such a way that the n-side connected to the positive terminal of the battery.
* And P-side connected to the negative terminal, then the Semiconductor diode is reverse bias
* The external voltage is the same as that of the barrier potential.
* Reverse bias refers to the applications of an external voltage across a Semiconductor diode so that the positive terminal of the battery is linked to the n-side and the negative terminal is attached to the p-side of the diode.

Forward bias:

* A Semiconducton diode is a p-n Junction diode
* it is a two terminal device that conducts Current only in one direction.
* The external voltage across The Semi Conducton diode is such a way that the p-Side is connected to The positive terminal OH The battery.
* And n-Side Connected to The negative terminal, Then the Semiconducton diode is Forward bias
* Thus The Forward bias narrows the depletion region, due to the carriers Across The battery terminals.

Ans to the Q. NO. 2(a)

A transmitter is an electronic telecommunication device used for transmitting data The amplitude-Modulated (AM) transmitter produces and electromagnetic carrier wave whose Amplitude is modulated, and which travels Through the other to a radio receiver. The transmitter Contains a stable RF oscillator, usually crystal Controlled; an audio amplifier a modulator; RF amplifiers and a connection to an antenna whose length is determined by the frequency of transmission. A transmitter is an electronic telecommunications device

used for transmitting data, transmitters generate radio waves from an antenna and use them to send and receive data. Transmitters that transmit AM signal are known as AM transmitters. These transmitters are used in medium wave and short wave frequency bands for AM broadcast. The MW band has frequencies between 550 KHz and 1650 KHz and the SW band has frequencies ranging from 3 MHz to 30 MHz. The two types of AM transmitters that are used based on their transmitting powers are: High level, LOW level.

Ans To The Q. NO. 2(b)

FM transmitter: An FM transmitter allows a phone to broadcast music stored in its memory on FM frequencies, so that it can be tuned into a nearby FM receiver such as a a car radio FM transmitters are not a common feature on mobile phones, but such modern models do exist the mobiles transmit at low power so interference with regular FM radio stations is highly lively - especially in dense urban environments where most of the FM spectrum is already populated by live radio broadcasts